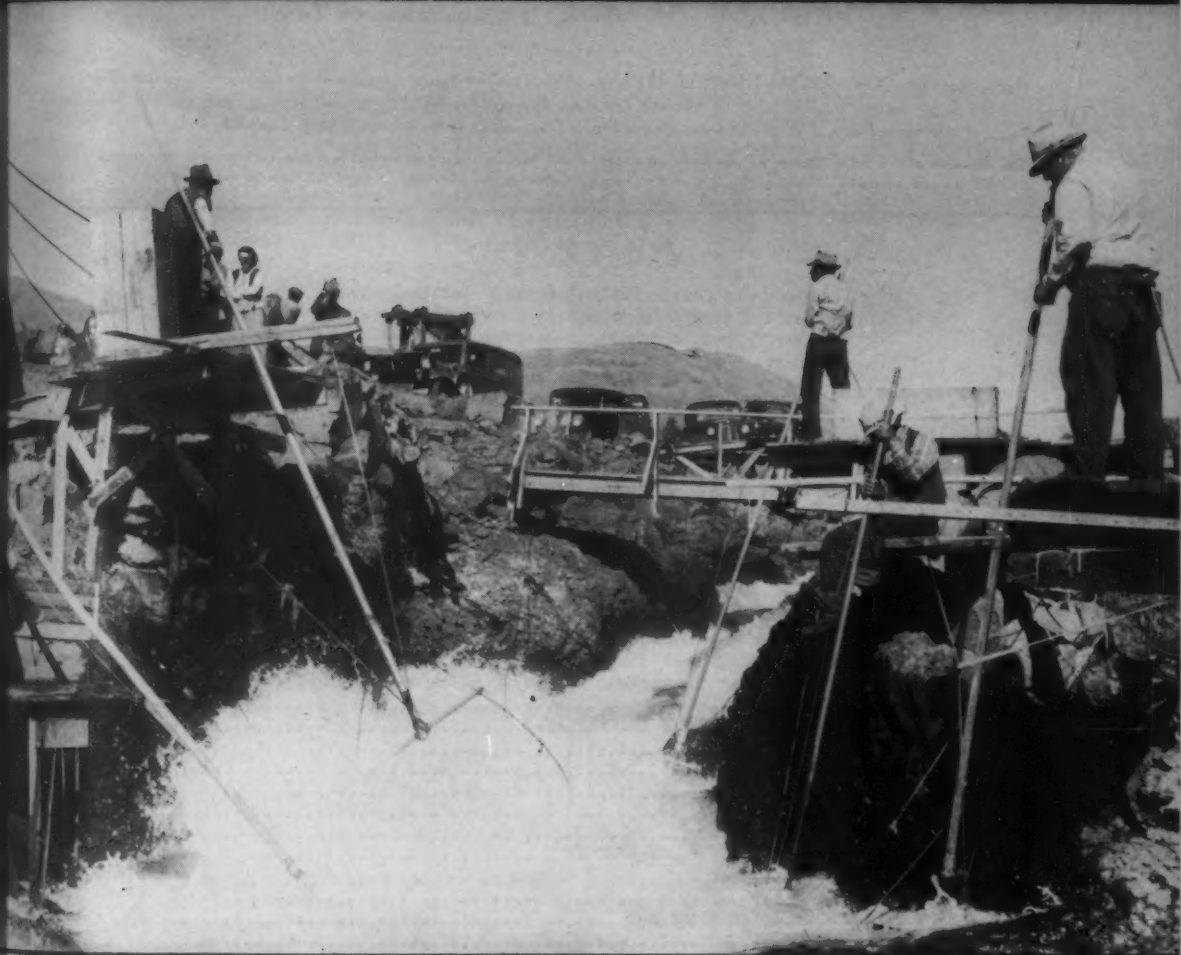


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COMMERCIAL FISHERIES REVIEW

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Vol. 8, No. 8

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United States Department of the Interior
Washington, D.C.



COMMERCIAL FISHERIES REVIEW



A REVIEW OF DEVELOPMENTS AND NEWS OF THE FISHERY INDUSTRIES
PREPARED IN THE DIVISION OF COMMERCIAL FISHERIES

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Applications for **COMMERCIAL FISHERIES REVIEW**, which is mailed free to members of the fishery industry and allied interests, should be addressed to the

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Cover: At Celilo Falls, on the Columbia River, salmon ascending toward their spawning grounds are forced to travel in several turbulent passages where the river waters force their way between the rocks. Here Indians of many tribes, exercising treaty rights of long standing, erect platforms and ply their dipnets.

Source: Office of War Information.

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COMMERCIAL FISHERIES REVIEW

August 1946

Washington 25, D. C.

Vol. 8, No. 8

AGAR-WEED, A FISHERY RESOURCE

By Vincent J. Senn*

Since ancient times certain seaweeds have been used as food, particularly by Oriental peoples. A few of these seaweeds are considered great delicacies. One favorite dessert of the Orient is a sweetened and flavored seaweed jelly. Until the middle of the seventeenth century, this jelly was always prepared from the dried seaweed just before it was to be eaten. It is to the unprecedented extravagance of a poor Japanese innkeeper in throwing out some of this seaweed jelly that America is indebted for what is possibly the smallest of its wartime-vital industries--the agar industry.



According to legend, a blizzard in about 1658 forced the Emperor of Japan to stop at a poor wayside inn in the mountains of Japan. The innkeeper had few fine foods to offer his august guest, but he could, and did, prepare large quantities of seaweed jelly. In fact, he prepared too much. Perhaps the left-overs were taboo for ordinary mortals, but whatever may have been the reason, Landlord Minoya threw the excess outdoors, where a portion caught on some bushes and froze during the night. Fair weather soon returned, and the chunks of jelly thawed and dried, leaving a spongy mass of negligible weight. Traditional Japanese thrift re-asserted itself, or perhaps it was scientific curiosity! Minoya took some of this sponge and boiled it. After cooling, the mass jelled, and the product was superior in flavor to the original seaweed jelly. This chance discovery became the basis of the large Japanese agar industry.

The seaweed was gathered and dried along the warm, sunny Japanese coast and stored until the wintertime. During the winter it was taken to the mountains, where the jellifying material was cooked out of it and then purified by natural freezing and thawing in the cold air.

The eating of seaweed jelly was not confined to Japan, but was also common on the mainland of Asia and throughout the islands of the southwestern Pacific. It was from Java that this jellifying material was introduced into America, and then into science. A Dutch family who had lived in Java first acquainted a New Jersey girl with it. She later became the wife of the German bacteriologist Hesse, and it was she who suggested to him that it might be superior to gelatin as a solidifying agent for bacteriological media. This proved to be the case, and "agar-agar" (or "agar") became indispensable to the bacteriologist and, therefore, vitally important to public health. A world market for the product was born.

Since the accidental discovery of the method of purification, the great bulk of the world's agar has been produced in Japan. Early in 1919, a group of Japanese-

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Americans organized a company to manufacture agar in California. Various species of red algae belonging to the genus Gelidium are much used for the manufacture of agar in Japan. Some of these Japanese-Americans observed seaweeds in California waters which looked much like Japanese Gelidium. Investigation proved that they were Gelidium and would yield agar. Only one species, Gelidium cartilagineum, proved capable of supporting an American industry. This is the American "agar-weed."

Agar-weed is a red-to-purplish seaweed which usually grows to a length of 15 to 24 inches off the Pacific Coast of southern California and Lower California. It has been reported to reach a length of 6 to 7 feet, but there are no authenticated records of such plants. The plant body consists of a round stem which is freely branched in the top half or third of its length. Agar-weed usually grows in fairly pure stands, but ordinarily these beds are small.

The weed grows from about mean lower low tide to a depth of about 60 feet. The portions of the coast which are suitable for the growth of agar-weed are very limited, because it grows only on exposed rocky coasts where surf-action is violent. The most favored sites are the sides of submerged rocks near their tops. Presumably, agitation of the water is greater here than on the top of the rock. The best agar-weed, therefore, is frequently found in a fringe around the top of the rocks. These factors influence the choice of gear for harvesting the weed.

The date when agar-weed was first gathered in the eastern Pacific is not known. The earliest picking was done by Japanese, apparently in Mexican waters, and the weed was shipped to Japan. In the early days of the California agar industry, much of the weed used was gathered from the San Pedro breakwater by "raking" it from the rocks. Some was also gathered by "skin diving," that is, by diving without suit or helmet. A 1921 newspaper article indicates that the Japanese-Americans harvested much of their weed from 3 or 4 fathoms by means of hooks attached to long poles. These California Japanese failed to obtain sufficient financial assistance or encouragement from their homeland and sold out to Americans.

Americans first gathered agar-weed about 1922, incidental to abalone-diving operations. They pulled up to 40 tons of dried agar-weed monthly off Lower California until taxes and regulations by the Mexican Government finally made harvesting unprofitable. The weed was sold to the American Agar Company (of Tropic, California) until this company failed, after which the weed was sold to Japan. The abalone-diving gear proved much more efficient than skin-diving or the use of long-handled hooks, and, since attempts to design a mechanical harvester have been unsuccessful, it is still the best known method.

The typical seaweed-diving boat is a gasoline-powered inboard vessel about 25 feet long, equipped with a compressor for the diver's air supply. The engine and controls are aft, while the hatch, line tender's station, and diver's ladder are forward. The boat is maneuvered, bow to seaward, over the rocks on which the agar-weed is growing. The diver, in full diving dress, including suit, helmet, heavy shoes, and lead back and chest weights, goes over the side with a rope basket. The cold southern California water makes a heavy suit of woolen underwear welcome. As the diver moves about on the bottom, he tears the weed from the rocks by hand and stuffs it into the rope basket. When the basket is full, a signal to the line tender causes the filled basket to be exchanged for an empty one. Each filled basket represents about 60 pounds of weed. One boat in a good area will gather daily about a ton of wet weed which will dry down to about 600 pounds.

The operator must constantly maneuver the boat to keep it as near as possible to the diver. Bubbles rising from the diver's helmet indicate his position on

the bottom. Since the boat is usually in the breaker zone or just seaward of it, the operator must be alert at all times to avoid damage to the boat or injury to the diver or to the diver's air hose. The diver, of course, has the most difficult task. He is constantly being thrown about by the surge and, at times, may be almost exposed in the troughs of the waves. In deeper water, where the effect of the surge is less marked, he may go about on his feet, but in shallow water he must move about on hands and knees and hold on to the rocks or weeds to keep from being thrown into the crevices. Cotton gloves protect his hands from injury on sharp rocks or shells, but the knees of his suit have no protection. The life of a suit may be as short as 20 working days, thus, three to five suits are required by each diver during the working year of 100 to 120 days. It is obvious that the diver can work only when the sea is relatively calm.



Recognition of the valuable weed is difficult for the inexperienced diver in the flickering, uneven light below the surface. It is said that a diver once pulled a half-ton of worthless Plocamium before he discovered his error. In time the diver learns not to attempt to recognize agar-weed by its general form, but to look for the encrusting bryozoan, Membranipora tehuelcha (erroneously called "coral"), which grows in quantity only on Gelidium.

The "coral" is both desirable and undesirable. It enables the diver to recognize the plant, and its shell forms a rough crust on the smooth, slippery stem of the weed, thus insuring him a good grip when he pulls it off the rock. Since the coral contains no agar, it is merely a contaminant, and it may seriously reduce the value of the weed. Air-dry weed is usually bought on the basis of not more than five percent of foreign matter (including coral) and not over 20 percent moisture. Larger amounts of either moisture or foreign matter lower the market value of the weed. Samples of dried agar-weed have been reported to contain as much as 60 percent of coral.

The diver and boat operator frequently exchange places at noon, since a diver seldom cares for more than three or four hours under water per day. When the hold is full, or the day nearly over, the boat returns to port. If the weed is to be sold fresh, the boat crew's work is completed when the weed is unloaded and weighed. If it is to be sold dry, it must be trucked to the drying yards and spread out on the grass or on low wooden racks. It may be necessary to turn the weed occasionally to prevent rotting, if drying conditions are poor. After the Gelidium has dried sufficiently to prevent the growth of mold, it is baled with an ordinary hay baler.

At the present time no American divers are harvesting agar-weed. During the early part of the war many abalone and construction divers were attracted to weed diving by the high prices offered for the weed, and several diving boats were moved from Morro Bay to Newport, California. An established agar company contracted with several of the divers for their fresh weed at a relatively low price, and either provided the diving boat or paid maintenance cost of the privately-owned boats. During the summer of 1943 speculators and owners of agar factories under construction bid spiritedly against each other for baled dry weed

and succeeded in forcing prices so high that it proved to be unprofitable to sell the extracted agar at the established ceiling price. Rising prices of baled dry weed forced prices of fresh weed up also.

Commercial diving for the green abalone was re-opened, and some of the men returned to abalone-diving, which was easier work, since it was usually done in deeper water. It also brought better returns because of inflated wartime prices for abalone steaks. Diving contracts were modified to permit the divers to divide their time between abalone and agar-weed, but none of these arrangements succeeded in stabilizing the industry. When American weed became too costly, the agar manufacturers were forced to turn entirely to weed imported from Mexico. Very little Gelidium was harvested from American waters during the summers of 1944 and 1945.

Weed diving in Mexico is done from compressor-equipped rowboats which are towed to and from the diving area by a power boat. The actual diving equipment is the same as that used in American waters. A few harvesters, without sufficient capital for expensive equipment, collect weed by "raking" or "hooking." The small native agar industry uses some of this Mexican weed, and the surplus is sold to American companies.

Whether or not American weed-diving can be revived is problematical. It is doubtful that American-made agar can continue to command its present price in the face of competition from Japanese agar, when that again becomes available. If the price of agar must be reduced, the cost of weed must be more than proportionately reduced.

American divers earned good wages per working day. Their annual incomes from diving, however, were not very large, if the hazards of their work, the short diving season, and the relatively short active life of a diver are considered. If the divers were able and willing to engage in other pursuits on the days when diving is impossible or unduly hazardous, it is possible that the harvesting of the American agar-weed could be revived.

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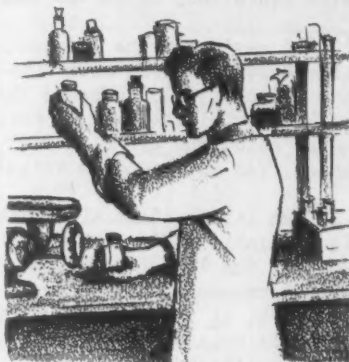


THE CONTENT OF CERTAIN AMINO ACIDS IN SEAFOODS ✓

By S. R. Pottinger * and W. H. Baldwin **

For proper growth and maintenance of the body, certain food components such as proteins, carbohydrates, fats, vitamins, and minerals must be supplied by the diet. Each of these has its specific function in maintaining health. Although fish, shellfish, and crustacea are usually included in the diet as a source of protein, they also furnish other food essentials, particularly fats, vitamins, and minerals in varying quantities. Proteins are found in all plant and animal matter in different quantities; flesh contains a high percentage in the water-free material, while cereal grains contain only a relatively small amount.

The food value of the different proteins varies greatly, however, and may be either of excellent or inferior quality. This quality factor depends largely upon the differential amino acid content of the protein. Some 22 different amino acids have been isolated chemically from the proteins of animal and vegetable origin, but only 10 have been determined by experimental feeding tests to be essential for growth and maintenance. The proteins or amino acids function in a number of ways, such as supplying material for structural units of the cells, for maintenance of fluid balance within the body tissues, and for producing cellular enzymes and hormones.



During digestion the protein is broken down or hydrolyzed into its constituent amino acids. They are then absorbed into the blood stream and carried to the various tissues of the body for resynthesis of proteins. Therefore, the main function of the proteins in the diet is to supply amino acids, which furnish the "building stones" used to repair tissues destroyed during metabolism or to build new body tissues. Excess amino acids, either essential or nonessential, are utilized by the body to yield energy or, in other words, to supply calories.

Information regarding the amino acid requirements of the body has been obtained by feeding experiments with purified proteins deficient in certain of the amino acids or by feeding amino acid mixtures. An excellent quality protein is one which contains all of the so-called essential amino acids in sufficient amounts to promote optimum metabolism. Proteins from animal sources are recognized as excellent sources of the amino acids needed.

The essential amino acids must not only be present in a protein, but they must be present in such a way as to be available for absorption and assimilation. Some proteins are almost wholly indigestible, in which case the amino acids are not available. Other proteins that are, for the most part, digestible may be poor sources of certain of the essential amino acids.

¹/This article is prepared from a paper of the same title, by the same authors, published in the Proceedings of the Sixth Pacific Science Congress, 1939, Vol. III, p. 453, University of California Press.

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** Formerly a chemist at the Fishery Technological Laboratory, College Park, Maryland. The tryptophane analyses included in this paper were used by Mr. Baldwin in his Master's thesis, submitted to the University of Maryland.

According to Rose (1937), the following amino acids were considered to be indispensable for growth or maintenance:

arginine	histidine	lysine	tryptophane	methionine
phenylalanine	threonine	leucine	isoleucine	valine

At the time the studies reported herein were started (1935), cystine was thought to be essential and, therefore, was included in the determinations. It is now believed that cystine is not essential when methionine is present, although there is still some question about its status.

There is some question also regarding the indispensability of arginine and histidine, although arginine appears to be necessary for the normal production of sperm cells. The actual process of the metabolism of some of the amino acids is uncertain, while still others are definitely known to be synthesized by the body. From a physiological standpoint, all of the nonessential amino acids may be considered indispensable (Patton, 1946). Some of these amino acids may be very important for functions other than growth; in any event, they are desirable in the diet since they spare the essential amino acids, according to this investigation.

A review of the literature and data from studies made by the Fish and Wildlife Service on the nutritive value of some proteins from fishery products (Lanham and Lemon, 1938), indicate that fish proteins, as a class, have been found to be of high nutritive value, which in turn infers that they contain the essential amino acids and are also very digestible. Feeding experiments, in general, have shown fish to be a most valuable food.

So far as chemical composition is concerned, however, very little information is available in the literature relative to the amino acid content of fish proteins. Most of the work reported was done a number of years ago, using methods not generally recommended today. Of the more recent work found in the literature, that of Beach, *et al.* (1943), might be mentioned. The content of 10 amino acids in six soft organs of beef and in the muscle tissues of several cold and warm blooded animals, including turtle, frog, salmon, codfish, and shrimp, is reported by these workers. It was found, in general, that muscle tissues of the different classes of animals studied do not differ widely in their amino acid structure. Although the organs show some similarity to the muscle tissue in composition, larger differences in amino acid content were found.

Because of a desire by investigators in the field of nutrition for information of this type, the former Bureau of Fisheries (now the Fish and Wildlife Service) undertook the quantitative estimation of arginine, histidine, lysine, tryptophane, and cystine in a large number of the more important species of fish, shellfish, and crustacea.

PREPARATION OF SAMPLES: Because of the perishable nature of fish and the rapid decomposition of the proteins, it was impractical to use raw samples for the analyses. Furthermore, certain difficulties in procedure might have been encountered because of the high moisture content and, in some instances, the high oil content of the product.

Removal of most of the water from protein material reduces decomposition to a minimum. Heating, in order to drive off the water, is impractical where large samples are desired; also, the composition of the protein will most likely be altered by the effect of the heat unless very careful control is possible. Accordingly, a solvent method was used for preparing the samples, dehydration being

affected by extraction of the raw flesh with anhydrous acetone. This solvent also removes most of the fat which is present in the body tissues of the fish, producing a final product having a low water content and containing practically no fat.

Table 1 - Percentage of Arginine, Histidine, Lysine, Tryptophane, and Cystine in the Proteins from the Edible Portions of Fish, Shellfish, and Crustacea

Species	Scientific name	Date sample was prepared	Arginine	Histidine	Lysine	Tryptophane	Cystine/
F I S H							
Catfish	<i>Ameiurus catus</i>	Aug. 1937	-	-	-	0.97	-
Cod	<i>Gadus callarias</i>	June 1936	5.58	1.72	6.83	1.06	1.41
Croaker	<i>Micropogon undulatus</i>	May 1936	5.81	1.37	6.10	1.24	1.15
Haddock	<i>Melanogrammus aeglefinus</i>	Sept. 1935	5.70	1.17	6.41	0.85	1.16
Halibut	<i>Hippoglossus hippoglossus</i>	Dec. 1936	6.00	1.66	6.16	1.64	1.45
Herring:							
Lake	<i>Leucichthys artedii</i> ..	Nov. 1937	-	-	-	1.25	-
Sea	<i>Clupea harengus</i>	March 1937	5.09	1.56	7.03	1.23	-
Lake trout	<i>Cristivomer namaycush</i>	June 1937	5.73	1.40	7.15	1.17	-
Mackerel:							
Boston	<i>Scomber scombrus</i> ...	Aug. 1936	5.78	1.93	7.13	1.36	1.18
Spanish	<i>Scomberomorus maculatus</i>	Jan. 1936	5.27	1.48	6.53	1.37	1.25
Mullet	<i>Mugil species</i>	Feb. 1937	5.78	1.61	6.74	1.36	1.29
Pilchard	<i>Sardina caerulea</i> ...	March 1937	5.60	1.23	6.78	1.30	-
Red snapper ...	<i>Lutianus blackfordii</i> ..	Nov. 1936	6.18	1.57	6.72	1.22	1.29
Salmon:							
Chum	<i>Oncorhynchus keta</i> ..	May 1938	5.55	1.30	5.69	1.33	-
King	" <i>tschawytscha</i> ..	April 1937	5.02	1.41	6.27	1.20	1.27
Pink	" <i>gorbuscha</i>	April 1937	-	-	-	1.09	1.15
Silver	" <i>kisutch</i>	Jan. 1937	5.68	1.87	6.57	1.44	1.39
Sockeye	" <i>nerka</i>	Sept. 1937	-	-	-	1.25	-
Shad	<i>Alosa sapidissima</i> ..	May 1936	4.54	1.09	6.45	1.22	1.17
Squeteague or "sea trout" ..	<i>Cynoscion regalis</i>	June 1937	5.90	1.42	6.78	1.01	-
Tuna:							
Albacore	<i>Germo alalunga</i>	Nov. 1937	-	-	-	1.18	-
Bluefin	<i>Thunnus saliens</i>	Oct. 1937	-	-	-	1.25	-
Bonito	<i>Sarda chiliensis</i> ...	Sept. 1937	-	-	-	1.19	-
Skipjack	<i>Euthynnus pelayus</i> ..	Dec. 1937	-	-	-	1.16	-
SHELLFISH & CRUSTACEA							
Clam, hard	<i>Venus mercenaria</i> ...	Sept. 1936	5.27	1.45	5.40	1.19	-
Crab, blue	<i>Callinectes sapidus</i> ...	Nov. 1936	7.61	1.51	6.38	1.11	-
Oyster	<i>Ostrea virginica</i> ...	Oct. 1936	5.71	1.79	5.24	1.67	-
Shrimp	<i>Peneus brasiliensis</i> ..	June 1936	7.50	1.61	7.35	0.96	1.25

1/Cystine determinations were conducted by H. C. Harris, Graduate Student Assistant, at the Fishery Technological Laboratory, College Park, Maryland.

The samples of fish proteins were prepared from skinned and boned fillets. The samples of shellfish and crustacea proteins were prepared from the edible portion. Representative samples were assured by using 100 pounds of fish or shellfish for the preparation of each lot of dried material. After extraction of the ground product, the dry, fat-free tissue was again ground in a laboratory mill and stored in evacuated glass jars until ready for analysis. The final product was a white, very light-weight, coarse powder.

ANALYTICAL PROCEDURE: Although several methods are recognized for the quantitative estimation of the various amino acids in proteins, the methods are not strictly comparable. Some methods for the quantitative estimation of amino acids are based on the calculation of the quantity of an amino acid from the nitrogen content of certain fractions of the hydrolyzed protein. These methods tend to overestimate the quantity of some of the amino acids, because the calculations are based on the total amount of nitrogen found; whereas, some part of this nitrogen may be from a source other than that which is desired. The method (Block, 1934) selected in this investigation for the estimation of arginine, histidine, and lysine depends on the quantitative isolation of the specific amino acid salts. The values obtained are more likely minimal, however, as inevitable losses occur in the separation and purification.

The colorimetric procedure of Folin and Ciocalteu (1927) was used for the estimation of tryptophane. From the standpoints of rapidity and duplicability of results, it appeared to be best fitted to the needs of this problem.

Cystine was determined by the colorimetric method of Sullivan and Hess (1930). The hydrolysate was usually highly colored, which made the color comparison difficult.

DISCUSSION OF DATA: The data in Table 1 (shown on p. 7) show the proteins of fish, shellfish, and crustacea, as a group, to be good sources of the amino acids arginine, histidine, lysine, tryptophane, and cystine. With the exception of the values for the arginine content of shellfish and crustacea, the percentages of the five amino acids determined are comparatively uniform for the different species.

In Table 2 are shown the arginine, histidine, lysine, tryptophane, and cystine content of casein, beef round, and egg albumin. The protein of milk, which is largely casein, is considered to be of satisfactory nutritional quality. Other animal proteins, such as those of meat and eggs, are also considered as being of good quality.

Table 2 - Percentage of Arginine, Histidine, Lysine, Tryptophane, and Cystine in the Proteins of Casein, Beef Round, and Egg Albumin--From Various Sources

Protein	Arginine	Histidine	Lysine	Tryptophane	Cystine
Casein	5.2	2.6	7.6	2.2	0.3
Beef round	7.5	1.8	7.6	0.9	1.3
Egg Albumin	6.0	2.3	3.8	1.3	0.9

Comparing the analytical results reported in Table 2 with those in Table 1, the proteins of fish, shellfish, and crustacea will be seen to compare very favorably with casein, beef, and egg albumin in the content of the five amino acids studied.

Fishery products may be used freely as a main source of protein, or as a supplementary protein to balance the deficiencies of less nutritive proteins included in the average diet.

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IRISH MOSS has been used as a food and in medicinal products for centuries. The early settlers imported small quantities for these purposes up to the year 1835, at which time extensive growths were discovered along the New England coast. This gave rise to a new industry for the population of that section, and, while its growth has not been large, it gives seasonal employment to several hundred people. Irish moss had been used chiefly as a component of puddings and as a demulcent in cough remedies; also, to some extent, in the manufacture of stabilizers for ice cream, chocolate milk, cheese, bakery products, confections, and dental impression compounds. The production of Irish moss in 1940 amounted to approximately 600,000 pounds, valued at \$59,000.

--Senate Document No. 51

NUTRITIVE VALUE OF THE PROTEIN OF SWELLFISH

By Dorothy B. Darling* and Hugo W. Nilson**

Inquiries have been received from time to time concerning the utilization of swellfish (*Spheriodes maculatus*). This fish, also called puffer, blowfish, and



"chicken of the sea," is caught principally in Long Island Sound, off New York. Despite an unusual appearance, this species has gained increasing importance as a food fish. In 1945, there were 270,000 pounds of swellfish sold in the Fulton Fish Market in New York City. This was the major part of the United States production. Only 2,000 pounds were marketed in New York in 1939.

The swellfish is dressed to furnish a very fleshy tail piece, containing only a rather large, and easily separated, backbone. The flesh is very white and attractive in appearance. The flavor of the cooked flesh is bland but tasty.

EXPERIMENTAL DATA: The reported experiments are concerned with determining the comparative nutritive value of the protein of the edible portion of swellfish. The fish used were shipped in the round in ice from New York to the laboratory at College Park, Md. The dressed fish were simmered for ten minutes, after which the flesh was removed from the bones, flaked, and compressed into blocks, which were tightly wrapped in cellophane to prevent dehydration. The blocks were frozen until needed for experimental feeding.

Fresh beef purchased at a local market was freed from most of the external fat, baked at 325° F., to an inside temperature of 165° F. The meat was stripped from the bones, ground, and then handled in the same manner as the fish.

Table 1 - Analysis of Cooked Samples

Product	PERCENT BY WEIGHT			
	Dry Matter	Protein N X 6.25	Ether Extract	Mineral Matter
Swellfish	25.8	23.20	0.73	0.96
Beef	40.1	31.03	8.50	1.21

The nutritive value of the protein was determined by feeding limited amounts of swellfish and beef daily to two groups of growing rats. The basal diet was so constituted that the quality of the test proteins should be the chief factor causing any difference in growth rate. The rats were allotted to the experiment at an initial live weight ranging from 49 to 55 grams. All were housed individually in wire cages over wire screen floors. Ten rats were fed swellfish, and five were fed beef. One rat fed beef died of pneumonia after six weeks. The data were not included in the summary.

Each day, the animals were fed weighed portions of the cooked samples, calculated to give equal amounts of protein based on the data presented in Table 1. During the first two weeks, each rat received 0.54 grams of protein daily. This was increased to 0.86 grams of protein for the next three weeks, and 1.17 grams

* Formerly pharmacologist, Fishery Technological Laboratory, College Park, Maryland.

** Chemist, Fishery Technological Laboratory, College Park, Maryland.

for the remaining three weeks. The rats received approximately 50 grams of protein during the 8-week period.

Water and a basal diet were available to the rats at all times. The basal diet included all of the necessary food elements, except protein, needed by the rats for normal growth. It consisted of cornstarch, 80; lard, 10; cod liver oil, 2; wheat germ, 2; dried brewer's yeast, 1.5; Wilson's powdered liver concentrate, 0.5; and U.S.P. XI, No. 2 salt mixture, 4 parts by weight. The supplementary protein content of the basal diet, amounting to 1.6 percent, was taken into consideration in subsequent calculations involving food intake.

Some difficulty was encountered in feeding the daily portions of swellfish and beef. The rats had a tendency to scatter the food. Food not eaten was weighed daily, and extra feedings weekly covered the loss of food due to scattering.

Table 2 - Average Gain in Weight, and Protein Intake for an Eight-week Period

Product	Number of rats	Gain in Weight		Average Food intake*	Average Protein intake
		Average	Co-efficient of variation		
		Grams	Percent	Grams	Grams
Swellfish	10	120.40	26.33	445.6	55.99
Beef	4	115.25	9.90	406.0	55.32

*Weight of basal diet plus weight of swellfish or beef, calculated on basis of dry matter plus 15 percent moisture.

The data in Table 2 shows that the rats receiving the diet containing swellfish gained an average of 120 grams during the 6-week period as compared with 115 grams for those fed beef. This small difference would be further reduced if the gains were adjusted to equal food intake.

It has been found in previous experiments that protein is the limiting factor in promoting growth of rats if included in a level less than 15 percent of an otherwise adequate diet. In this case, the protein content of the air-dry equivalent diet containing swellfish was 12.6 percent, and of the diet containing beef was 13.6 percent. The difference in average gain between the two groups was not statistically significant, although they received almost identical amounts of protein. The data, therefore, indicate that the two proteins are about equal in quality.

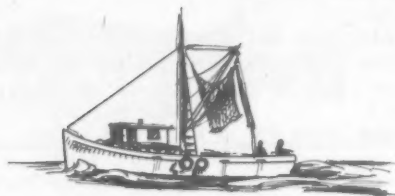
During the eighth week, the feces were collected from certain of the animals, and analyzed for nitrogen. It was found that the apparent digestibility coefficient of the protein in the diet containing swellfish was 91.8 percent, and of that containing beef was 91.2 percent. This means that the proteins of both swellfish and beef are highly digestible.



SECTIONAL REVIEWS

South Atlantic

Shrimp production in the South Atlantic States is normally low during the spring months. Vessels average only 100 to 300 pounds (heads off) per trip. Prices are always higher at that time of the year and usually average two to three times the price brought during peak production, according to the Service's Fishery Marketing Specialist making the commercial fishery survey in that area.



The summer shrimp run began in Florida, Georgia, South Carolina, and Gulf ports during the latter part of June. This increased production considerably and had the tendency to stabilize prices at a lower level.

A seafood dealers' association has recently been organized in the South Atlantic area composed of dealers from North and South Carolina, Georgia, and Florida. This organization is attempting to improve control of shrimping, regulation of seasons, and uniformity with respect to State laws.



STEAKS OR FILLETS

3 pounds fish steaks or fillets.
 $\frac{1}{2}$ cup melted fat.
 2 tablespoons lemon juice.

$\frac{1}{4}$ cup finely chopped parsley.
 1 teaspoon minced onion.
 Salt.

Wipe the fish, remove any bones, and cut into pieces of the size desired for serving. Salt each piece on both sides and let stand to absorb the salt. To the melted fat, add the lemon juice and minced onion. Dip each piece of fish into this mixture; place them in a greased, shallow baking dish; and pour the rest of the fat over them. Bake in a moderate oven, 350° to 375° F., about 25 minutes. If not sufficiently browned, place under the flame of the broiling oven. Sprinkle the parsley over the fish and serve from the baking dish.

Fillets or pan-dressed fish may also be baked with a small amount of fish or meat stock, or milk in the bottom of the open baking pan. Chopped onion, celery, or green pepper may be added if desired. The seasoning is added to the stock or milk. Bake in a moderate oven, 350° to 375° F., until tender. A modification is to pan-bake the fish in stock or milk in a covered, heavy cast-metal skillet on the top of the stove.

TECHNOLOGICAL RESEARCH IN SERVICE LABORATORIES

JUNE 1946

College Park, Md.

Preparations are under way for the packing of a series of experimental, fish-base pet foods.

The staff organized and set up an educational exhibit in cooperation with the National Fisheries Institute at the American Home Economics Convention held in Cleveland on June 24-27.

An experimental shipment of blue pike fillets was sent by air from Wayne University in Detroit to this laboratory. The fillets had been previously inoculated with Clostridium botulinum, but the product was not toxic to guinea pigs on arrival.



Experiments were conducted on the use of various dips as a means of delaying spoilage of shucked oysters. Five out of 14 micro-organisms isolated from oysters were shown to produce substances antagonistic to fungi.

A satisfactory air sampler was designed to be used in testing the disinfecting efficiency of glycol sprays.



Boston, Mass.

Seven experimental sardine packs were prepared. Ice, in combination with brine, proved to be much superior to brine alone in holding fish prior to use.

The staff assisted the scallop fleet in obtaining cotton cloth for scallop bags. A shortage of these bags had threatened to tie up the vessels.



Ketchikan, Alaska

Recipes tested for the Alaska cookbook included dishes using abalone, oysters, king salmon, sablefish, rockfish, and halibut.

Because Alaska housewives have inquired about the use of kelp, samples of the following products were prepared: mint kelp jam, orange kelp marmalade, kelp

sweet pickles, pennock preserves, and sweet kelp preserves. After further tests, the recipes will be mimeographed for distribution.

Information on fish cookery and preservation was supplied to Mrs. Dale DeArmond of Station KTKN, Miss Imogene Ward of the University of Alaska, and Mr. George Logan of Waterfall, Alaska.

A modified method developed here for assaying riboflavin was tested on herring treated in various ways. Excellent checks were obtained and considerably less time and effort were used than with the older methods.

Statistical data were collected on the amount of trimmings that resulted from the operations of the Alaska salmon canneries from 1938 to 1944. These data will serve for planning byproduct recovery installations.

Figures on the 1945 fish landings in Ketchikan were prepared for presentation by the Chamber of Commerce at the Army Engineers' hearing on improvement of local harbor facilities.

A cooperative program was carried out between this laboratory and two commercial laboratories. Independently, the three laboratories determined the vitamin A content of portions of identical lots of grayfish livers, and the results were found to check closely.

The Fishery Products Laboratory's research vessel, the Researcher, visited Coon Cove and Bostick Inlet to investigate the oyster beds, and Walden Rocks and Ship Rock to obtain abalone and other shellfish. It also stopped at various canneries between Ketchikan and Prince of Wales Island to secure data on unutilized resources.

On June 20 the Researcher left Ketchikan for Chatham Straits. Stops were made on June 21 at herring reduction plants at Washington Bay and Big Port Walter, and on June 22, at a plant in Port Armstrong, in order to obtain samples of herring at various points in the reduction processes. Quadruplicate samples, two to be processed and two to be frozen, were taken at each step of the process for each sample in the series. It is intended to take approximately 21 series of samples, seven from each plant, each on different operating days. For each series, samples are being taken of raw material, cooked material, press cake, dried meal, press liquor, first-run oil, finished oil, foots liquor, and stick water. Experience obtained in the first series of samplings at each plant indicated that the sampling plan should be comparatively successful. At the laboratory, trial experiments on herring taken from the cold-storage plant were continued. At the end of the month, analyses of the first set of samples received from the Researcher had begun.



Mayaguez, Puerto Rico

The earnings of fishermen using motor boats were compared with the earnings of the fishermen using sail boats. The use of motors resulted in higher earnings for the owner, captain, and crew members. The advantage came principally from being able to operate over greater distances without depending on the wind. The motor boat fishermen could make more trips per year.

Seattle, Wash.

Fillets from large numbers of individuals of the various species of rockfish were compared for odor, flavor, texture, and appearance. No significant differences could be found between the species, except that *Sebastes melanops* was usually slightly more tender. Recipes are being developed that take advantage of the shredlike texture of rockfish which allows it to be used somewhat like crabmeat.

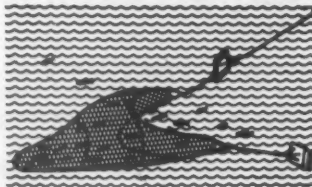
Determinations were made of the rate of decomposition of the vitamin A in grayfish livers during storage.

Two demonstrations were presented: "Cutting and Packaging of Fish for Home Locker Storage" to an audience of 250 homemakers at Frederick and Nelson's auditorium, and "Fish Cookery" at the Home Economics Department of the University of Washington.



OTTER TRAWL FISHING IN WASHINGTON AND OREGON

A considerable portion of the fish landed in Washington and Oregon are bottom fish. They consist of soles or flounders, halibut, and various species of rockfish and cod. Halibut are generally taken by hook and line. Soles and flounders are the most important species of bottom fish caught with the type of gear known as otter trawls. This type of gear consists of a large net, the mouth of which is held open by what are known as otter boards, one on each side of the net. The net is dragged along the ocean bottom from the stern of the fishing vessel and at regular intervals is hauled aboard to empty the catch of fish.



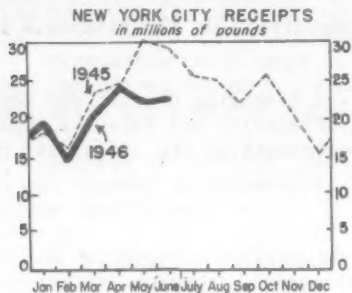
In addition to the soles or flounders, the principal species caught by otter trawl fishermen are Petrale or round-nose sole, English sole, and rex sole, long cod, and true cod. The livers and viscera of most of the bottom fish are important for their vitamin content and have come to represent a substantial revenue to fishermen during the last few years.

--Distribution Methods and Costs, Part IX,
Federal Trade Commission Summary, 1946.

FRESH AND FROZEN FISH

Middle Atlantic

NEW YORK CITY RECEIPTS: Receipts of fish and shellfish at the New York City Fulton Market during June totaled over 22 million pounds, according to the Service's Market News Office in that city. This represented only a slight increase over the receipts in May. While fish receipts declined slightly less than 10 percent, shellfish receipts rose 31 percent.



The leading items were cod, flounder, haddock, mackerel, scup, and whiting, in order of poundage received. Leaders among shellfish items were hard clams, shrimp, scallops, and squid.

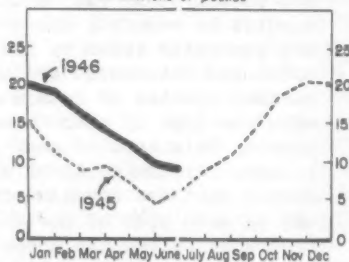
A comparison of receipts, with allowance for differences in cold-storage holdings, indicates that consumption of fish in the Metropolitan New York area declined close to 7 million pounds in June 1946 compared with June 1945. Receipts for June 1946 were 23 percent less than those of June 1945.

NEW YORK CITY COLD-STORAGE HOLDINGS: Cold-storage holdings of fishery products in the New York City Metropolitan area on July 1 totaled 9,449,000 pounds, according to the Service's Market News Office in that city. This represented a 4 percent decrease compared with June 1 and a 53 percent increase over July 1, 1945.

Withdrawals of cod fillets in June amounted to over 775 thousand pounds. Salmon holdings were reduced by nearly 200 thousand pounds.

Halibut inventories increased by 192,000 pounds, while lobster tails, oysters, scallops, and squid increased, and shrimp stocks dropped off slightly. Holdings of lobster tails increased over 200,000 pounds, due to a cargo imported from East Africa in early June.

COLD STORAGE HOLDINGS - NEW YORK
in millions of pounds



Important fresh-water species that showed increases were sturgeon and whitefish, while buffalofish, cisco, and yellow pike showed decreases.

The activity of the cold-storage in and out movement far surpassed that of June 1945. This year the cold-storage "in" figures totaled over 2,468,000 pounds, while those of June 1945 were only 339,000 pounds. The June 1946 "out" figures were 2,454,000 pounds as compared with 374,000 pounds for June 1945.



Chesapeake

HAMPTON PRODUCTION: Landings of fish and shellfish in the Hampton area totaled 4,007,000 pounds during June. This represents a decrease of 43 percent compared with May, according to the Service's local Market News Office.

The production of crabmeat increased from 182,000 pounds in May to 249,000 pounds in June. Crabs have been abundant in this area, but production has been somewhat limited because of the inability of dealers to find crab pickers.

The production of soft shell crabs in the Crisfield area increased from 231,596 dozen in May to 236,640 dozen in June despite the hot weather during the month.

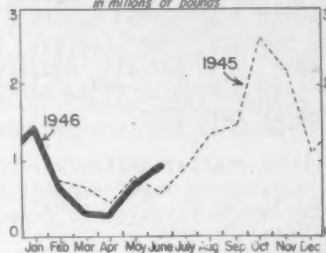


South Atlantic

SHRIMP PRODUCTION: Shrimp production for Florida and the South Atlantic States amounted to 942,000 pounds (heads off) during June. This was 31 percent above May landings and 59 percent greater than June 1945, according to the Service's Market News Office at Jacksonville.

June was the first month this year that appreciable quantities of shrimp were taken off the Florida coast. A large percentage of these shrimp were medium and small, while those landed at the more northern ports were of large and medium size.

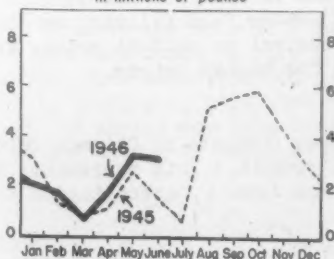
SOUTH ATLANTIC SHRIMP RECEIPTS
in millions of pounds



Gulf

SHRIMP PRODUCTION: Shrimp production in the Gulf area during June totaled 23,000 barrels, an increase of 10,500 barrels over production in June 1944, according to the Service's Market News Office at New Orleans.

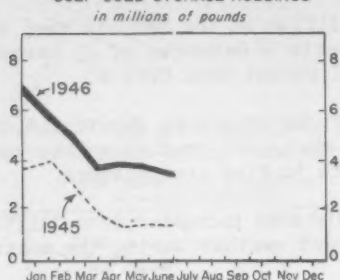
GULF SHRIMP RECEIPTS—
in millions of pounds



It is expected that the July production will be only half of the June total, as July is normally a month of slackened shrimping operations. During this month, small shrimp are given the opportunity to increase in size, and fishermen use the intermission to repair their vessels.

Since the relaxation of OPA price ceilings on shrimp on May 20, 8 plants under Federal seafood inspection in the Gulf area packed 31,000 cases of canned shrimp.

COLD-STORAGE: Shrimp stocks in Gulf cold-storage plants totaled 1,250,000 pounds on July 1. This was a decline of one-half million pounds as compared with 1,700,000 pounds on June 1, but was 664,000 pounds greater than July 1, 1945, according to the Service's Market News Office at New Orleans. During the month, 100,000 pounds of cooked and peeled shrimp were placed in cold-storage.



The inventory of fish in these warehouses on July 1 totaled about 2 million pounds compared with 700,000 pounds on July 1, 1945. Only slight fluctuations affected these holdings during June.



Great Lakes

CHICAGO RECEIPTS: Receipts of fish and shellfish during June in the Chicago wholesale fish market amounted to 7,818,000 pounds. This represents an increase of 22 percent over receipts in May, but is a decrease of 4 percent compared with those for June 1945, according to the Service's Market News Office in that city.

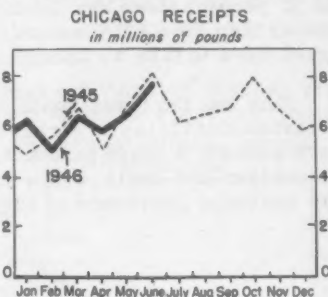
Much smaller deliveries of carp and sheepshead during June were responsible for the decline of 8 percent in fresh-water receipts compared with June 1945.

Salt-water receipts were 20 percent below those in June 1945. Smaller deliveries of halibut and of many Eastern varieties were responsible for the decrease.

Shrimp deliveries during the month were 318 percent greater than deliveries in June 1945, while other shellfish deliveries were comparable to those in June of last year.

The most interesting developments during the month were the greatly increased deliveries of shrimp and of rosefish fillets and the decrease in halibut receipts. The lifting of most of the OPA controls over fresh and frozen fish and shellfish prices on May 20 undoubtedly affected shrimp and salt-water fish fillets, as they rose sharply and rapidly in price. The release of control on halibut prices resulted in a larger percentage being frozen and held for higher prices.

CHICAGO COLD-STORAGE HOLDINGS: Holdings of fishery products in Chicago cold-storage warehouses on July 3 amounted to 5,752,000 pounds. This represents an increase of approximately 3 percent over holdings on June 6, according to the Service's local Market News Office.

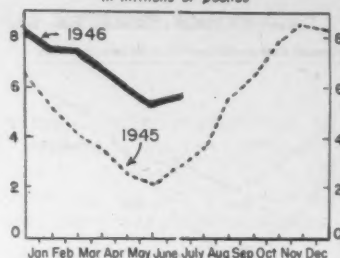


As the receipts of fresh-water fish during June were unable to keep pace with the great demand for these species, it resulted in larger withdrawals of fresh-water varieties than of any other class of products.

Holdings of salt-water items increased during the month from large receipts of rosefish fillets and halibut.

Very little shrimp found its way into storage during June and what was received was usually withdrawn within a few days. Shrimp holdings showed a large decrease during the month.

COLD STORAGE HOLDINGS—CHICAGO
in millions of pounds



Pacific

LANDINGS IN SOUTHERN CALIFORNIA: Fresh fish landings in the San Pedro-Santa Monica area totaled 60,000 pounds during June, a decline of 417,000 pounds under May, according to the Service's Market News Office at San Pedro. Landings were virtually stopped as labor controversies at San Pedro tied up fishing boats for the month. Santa Monica landings for June were approximately the same as those for the preceding month.

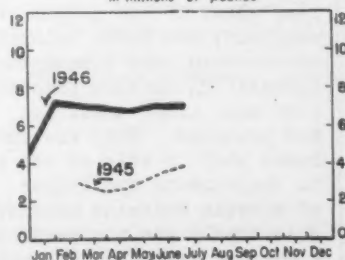


San Diego landings were irregular during June with almost no catch on some days; however, the month's total exceeded that for May by nearly 100,000 pounds. Principal increases were noted in landings of barracuda, California halibut, mackerel, and yellowfin tuna, while sizable decreases were noted in landings of grouper and rockfish.

CALIFORNIA COLD-STORAGE HOLDINGS: Freezings of fish and shellfish in California plants during June amounted to 400,000 pounds. This was only 30,000 pounds less than freezings in May, according to the Service's Market News Office at San Pedro, but it was far below the three quarters of a million pounds frozen in June 1945.

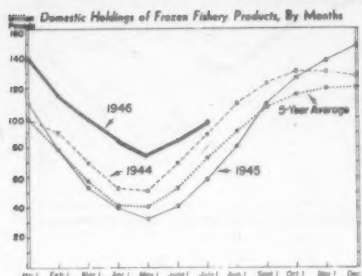
Fishery products held in California cold-storage warehouses on July 1 totaled 6,600,000 pounds. This was 2,700,000 pounds greater than stocks on July 1, 1945. Two million additional pounds of shrimp were largely responsible for the outstanding rise in holdings over July 1, 1945.

COLD STORAGE HOLDINGS—CALIFORNIA
in millions of pounds



United States

COLD-STORAGE FREEZINGS AND HOLDINGS: Holdings of frozen fish and shellfish

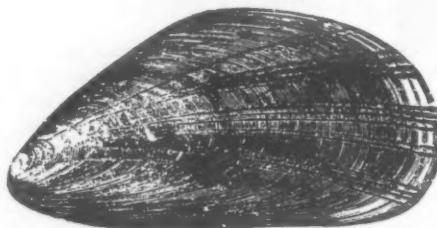


increased 13 million pounds during June 1946 and on July 1 totaled 97,806,000 pounds. This was 67 percent above stocks held on July 1, 1945, and 35 percent above the 5-year average for this date, according to the Service's Current Fishery Statistics No. 275.

Freezings of fishery products in domestic cold-storage plants totaled 38,203,000 pounds during June, compared with 39,392,000 pounds in June 1945. Total freezings for the first 6 months of 1946 amounted to 108,617,000 pounds compared with 95,991,000 pounds frozen during the first half of 1945.



SEA MUSSELS



A virtually untapped shellfish resource is the common sea mussel which lines hundreds of miles of the Atlantic coast with its small black shells. Except for the few gathered locally by people who appreciate its delicate flavor, the mussel beds are almost wholly neglected. In 1940 about 17,500 pounds were taken commercially in Massachusetts, Connecticut, and Rhode Island; none in Maine or New Hampshire. In Europe, by contrast, the demand for mussels is so great that for many years propagation has been practiced extensively to augment the natural supply. Like most other shellfish, sea mussels are rich in minerals, vitamins, and proteins. They are among the most digestible of foods, for the human body is able to use practically all of the nutriment contained in their meats and liquor. Because their shells are thinner, a bushel of mussels contains considerably more food than a bushel of oysters. Undoubtedly the thousands of acres of untouched mussel beds represent a seafood resource of great potential value.

CANNED AND CURED FISH

Shrimp

SHRIMP PACK: During July, shrimp canning is normally almost inactive, while inshore fishing is at a standstill. The pack of canneries operating under the supervision of the Seafood Inspection Service of the U. S. Food and Drug Administration was too small during the month to be reported by the New Orleans Market News Office. Reports will be continued later as canning activity increases.



Tuna and Mackerel

TUNA AND CALIFORNIA MACKEREL PACK: The production of canned tuna by California packers during June totaled 706,991 standard cases, according to the California Division of Fish and Game. This was 64 percent more than the May pack and 39 percent over June 1945. The total pack during the first 6 months of 1946 amounted to 1,949,476 cases, 43 percent above the production for the corresponding period in 1945.

The pack of mackerel during June was 1,196 standard cases, 55 percent less than May. Only 26 cases were canned during June 1945. The 6-month pack of 54,909 cases was 10 percent below that for the first half of 1945.

California Pack of Tuna and Mackerel—Standard Cases*

Item	June 1946	May 1946	June 1945	Six mos. ending with June--	
	Cases	Cases	Cases	1946	1945
Tuna:					
Albacore	8,161	-	-	8,186	1,448
Bonito	789	240	300	5,039	1,921
Bluefin	89,586	28,231	70,893	160,200	132,096
Striped	64,687	39,805	18,432	168,604	82,253
Yellowfin	384,078	273,643	294,264	1,196,825	748,112
Yellowtail	1,322	2,667	286	24,537	979
Flakes	158,368	85,378	125,262	386,085	398,239
Tonno style	-	-	388	-	2,018
Total	706,991	429,964	509,825	1,949,476	1,367,066
Mackerel	1,196	2,654	26	54,909	61,050

*Standard cases of tuna represent cases of 48 7-ounce cans, while those of mackerel represent cases of 48 1-pound cans.



FISHERY BYPRODUCTS

Oil and Meal

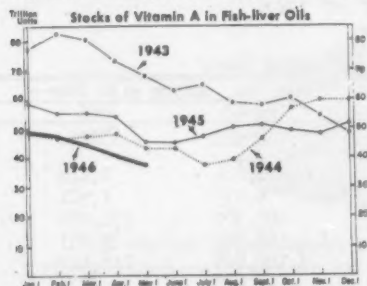
PRODUCTION: Only a small quantity of fish oil is produced during the months of February through May. Heavy production begins in June and continues through the following January, with peak production occurring during September and October.

The production of fish oil during May totaled 210,009 gallons, compared with 152,237 gallons produced in May 1945, according to the Service's Current Fishery Statistics No. 278. The production of fish meal and scrap during May amounted to 6,466 tons, a decrease of 1,714 tons compared with May 1945. Data on the yield of fish meal and scrap are based on items which normally account for about 94 percent of the total production. Data on the production of pilchard and tuna and mackerel meal and oil are furnished by the California Division of Marine Fisheries.



Vitamin A

STOCKS AND PRODUCTION: Stocks of vitamin A in fish-liver oil on May 1 were reported at 37.8 trillion units, a decrease of 6 percent under stocks held on April 1 and 17 percent less than those of May 1, 1945, according to the Service's Current Fishery Statistics No. 282.



Production of vitamin A during April totaled 6.3 trillion units compared with 3.5 trillion units produced during April 1945. Total production during the first four months of 1946 amounted to 16.8 trillion units as compared with 16.4 trillion units produced during the corresponding period of 1945.

Receipts of livers during April totaled 669,000 pounds, containing about 2.5 trillion units of vitamin A. During the same month of 1945, 599,000 pounds of livers having a vitamin A content of 4.0 trillion units were received.



OTHER FISHERY NOTES

Alaska Fisheries Regulations

Secretary of the Interior J. A. Krug announced on July 20 a series of hearings to be held between September 10 and November 14 by the Fish and Wildlife Service so that Pacific Coast fishermen could discuss proposed changes in the Alaska commercial fisheries regulations for 1947.

The hearings, the Secretary said, are scheduled as follows:

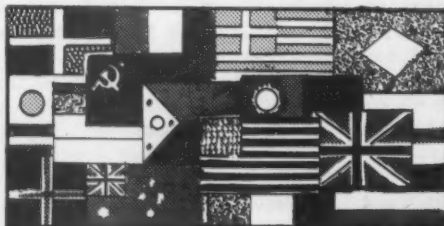
Kodiak	- Sept. 10	Juneau	- Sept. 20	Wrangell	- Sept. 27
Anchorage	- " 13	Sitka	- " 23	Ketchikan	- " 28
Cordova	- " 16	Klawak	- " 25	Seattle	- Nov. 14

Discussion of trap site limitations, on which hearings were started in Washington on February 21, 1946, will be postponed until later, with the exception of questions concerned with the new section 201.26, which was originally proposed in the Secretary's order of March 6, 1946. This section contains provisions which will serve to exclude from any trap site a person who held a permit for that site in 1946 but who, instead of occupying it himself, leased or assigned it without bearing all or a substantial part of the expenses and financial risk involved in the installation, care, service, and use of the trap.



The American Trade Proposals: Trade Barriers Imposed by Governments^{1/}

World trade is of great concern to the United States. Since 1934, this country--through the Hull Trade Agreements--has been actively pursuing a policy of lowering trade barriers. Now, with the war over and the great tasks of reconstruction begun, this country has the opportunity to use its economic leadership to guide the world toward the goals of increased international trade conducted on a basis beneficial to all, with greater freedom than was possible in the past. We cannot create such a world single-handed; it requires the help of all trading countries.



In an attempt to move in the direction of reducing trade barriers, the United States Government on December 6, 1945, issued its "Proposals for Expansion of World Trade and Employment."^{2/} These Proposals have been carefully prepared by experts^{1/} This is condensed from an article by Mrs. Margaret Potter, published in the March 17th Bulletin of the State Department. A companion article will appear in the September issue of the Commercial Fisheries Review.

^{2/} The Department of State Bulletin of December 9, 1945, p. 912.

from many interested departments and agencies of the Government. They are published as a basis for discussion which, it is hoped, will lead to a world conference on trade and employment. In a joint statement with the United States Government, the British Government has stated that it "is in full agreement on all important points in these proposals and accepts them as a basis for international discussion; and it will, in common with the United States Government, use its best endeavors to bring such discussions to a successful conclusion, in the light of the views expressed by other countries."^{1/}

As a first step, the United States has invited 15 countries to participate in a preliminary meeting at which mutual trade-barrier reductions would be negotiated and at which recommendations to the world conference would be prepared regarding general policies in the field of international trade.

The Proposals themselves are comprehensive, dealing not only with governmental barriers to trade, but also with those imposed by private business organizations and with international agreements concerning certain commodities that offer special problems in world trade. The international aspects of domestic employment policies and the structure of a proposed International Trade Organization also are covered. The present article discusses those sections of the Proposals dealing with governmental trade barriers.

The International Trade Organization would function, within the system created by the Charter of the United Nations, as the central international forum for the discussion of problems relating to international trade and trade barriers, and for the formulation and recommendation of methods of dealing with such problems. Its charter would be adopted at the world conference on trade and employment, and its original membership would consist of all nations participating in that conference which accepted membership in it. The fundamental purposes of the ITO, as outlined in the Proposals, would be to promote international commercial cooperation, to enable members to avoid recourse to measures destructive of world commerce, to facilitate access by all members on equal terms to the trade and raw materials of the world, and, in general, to promote the expansion of production, exchange of goods, and high levels of employment and real income.

GOVERNMENT BARRIERS TO PRIVATE TRADE: There are four general ways in which private trade can be restricted by governments: tariffs and preferences, quantitative restrictions, exchange control, and miscellaneous administrative controls. In addition, governments have distorted the flow of trade and in some cases restricted it--directly or indirectly--through improper use of subsidies and state-trading organizations. For each of these types of government regulation of trade it is the objective of the Proposals to present a generally acceptable code of principles which will permit an expanding flow of world trade.

TARIFFS AND PREFERENCES: Of all the barriers to trade which grew up between 1930 and the outbreak of World War II, tariffs and preferences bulk perhaps the largest in the minds of the American and British peoples, since measures of this kind form the principal trade barriers used by the United States and the British Commonwealth countries. The United States Proposals attack the related problems of tariffs and tariff preferences as a unit.

QUANTITATIVE TRADE RESTRICTIONS: Long before the war it had become apparent that quantitative controls provide the most effective of all methods of obstructing the flow of trade. By the same token, they have been the most formidable barrier

^{1/} The Department of State Bulletin of December 9, 1945, p. 912.

to the expansion of trade. In considerable degree, trade can adjust itself to tariffs, even to rather high tariffs. There is no way, however, in which trade can adjust itself to an outright prohibition on imports or to a restrictive quota. Under the United States Proposals, quantitative restrictions would be eliminated, in principle, both as regards export and import trade, in conformity with the general purpose of avoiding recourse to measures destructive of world commerce.

EXCHANGE CONTROL: The Bretton Woods International Monetary Fund Agreement takes detailed account of exchange-control problems. By providing funds for stabilization purposes it reduces the need for exchange control. The Fund Agreement, therefore, provides for the elimination of exchange controls after a transitional period, except in specified circumstances. It also sets up standards to ensure that when exchange controls do exist they shall not be used to discriminate against any member country after a transitional period. With the Fund Agreement in existence it seemed unnecessary to incorporate elaborate exchange-control provisions in the United States Trade Proposals. The simple provision is made that members of the ITO shall abide by the exchange principles of the International Monetary Fund.

GENERAL COMMERCIAL PROVISIONS: In addition to the well-defined and regularly recurring trade practices by which trade has been restricted and diverted into uneconomic channels for reasons of military or political strategy, because of exchange difficulties or for other reasons, states have in the past made use of a great variety of regulations of a miscellaneous character which have had much the same effect. In some instances such measures have been conscious efforts to give protection to domestic interests; elsewhere a more or less unintended confusion of regulations, restrictive in effect, has resulted from the frequent changes necessitated by prewar difficulties or wartime trade conditions. Consequently, a thorough overhauling of all countries' customs regulations and other administrative controls affecting imports is an essential part of a well-rounded program of trade-barrier reduction.

OTHER GOVERNMENT PRACTICES AFFECTING WORLD TRADE: The provisions already described complete the sections of the Proposals dealing with governmental measures which operate primarily to restrict private trade. Under the general heading of barriers to trade, the Proposals also deal, however, with two other governmental practices which sometimes constitute trade barriers. One such practice, the use of subsidies, if it affects international trade at all, operates primarily to distort the direction of trade; the other, the use of state-trading organizations, may obstruct trade either by distorting its direction or by restricting the total volume of trade both public and private.

Subsidies: In an effort to improve the incomes of producers of various goods--particularly agricultural commodities, of which prices had fallen disproportionately to other prices during the depression and after--and sometimes for other reasons, various countries have adopted measures to subsidize producers of certain commodities. In some cases subsidies have related to domestic production, as do direct payments to producers or public purchases of the commodity at minimum prices. Others have been paid upon exports of the commodity from the country employing the subsidy.

Some subsidies of the first class have not affected international trade at all or not significantly, but many others have resulted either in decreased imports into the country employing a subsidy or increased exports from it. Export subsidies and all domestic subsidies which have operated to force increased exports on world markets have in turn increased competition in world markets already

depressed by surpluses, and have made it increasingly difficult for equally or more efficient suppliers in other countries to obtain remunerative prices for their produce. Apart from these economic difficulties, the use of subsidies to promote exports has also tended, in competing exporting countries, to create fear of increased subsidies and resentment against the country employing them.

Under the Proposals, subsidies are treated under two main categories: those related to domestic production and those which take the form of export subsidies. Domestic subsidies which do not operate to increase exports or to reduce imports would not be subject to any international procedure at all, but all domestic subsidies which have such international effects would be reported to the ITO. It may be assumed, for example, that under these Proposals payment of a subsidy to maintain pilot plants for industries essential to national defense might fall entirely outside the purview of international regulation. On the other hand, a subsidy paid to maintain commercial operations by an industry required for national security might, without causing serious damage to the trade of any other country, have international effects and so require reporting to the ITO.

If the domestic subsidy were such as to cause serious damage to the trade of another country, the subsidy would not only be reported but an effort would be made to reach agreement regarding limitation of its use. Such might, for example, be the case if a subsidy were maintained to encourage home food production in a country which would otherwise require considerably larger imports of food-stuffs.

For export subsidies, separate provision is proposed. Because of their immediate and disturbing effects upon the trade of other countries, it is contemplated that their use would in general be abandoned after an initial transitional period. However, in the case of commodities in burdensome world surplus, export subsidies could still be used within reason either under an approved international commodity agreement or if efforts to conclude such an agreement had failed. This provision would, for example, permit the continuance beyond the transitional period of United States export subsidies on two commodities which have presented troublesome surplus problems in the past, namely, wheat and cotton, only if (1) it had been shown that both were in burdensome world surplus, (2) an approved international commodity agreement had been concluded, under which the subsidies were being operated, or (3) efforts to reach an international commodity agreement had failed. Even so, the subsidy would not be operated to increase the United States' share in world trade in these commodities, as compared with a previous representative period.

State Trading: The term state trading is one which, to most Americans, immediately calls to mind the practice of requiring all exports or all imports to be sold and purchased through a single governmental trading company, either for purposes of managing the country's foreign exchange resources or as a part of a domestic production-control program. Actually, the term is much more inclusive and as such applies to the operations of a number of United States governmental agencies. Purchase of strategic materials or of agricultural products by governmental agencies for resale, either to ensure supplies or to support or control prices, is a form of state trading. Foreign state monopolies, such as the tobacco and match regimes maintained by several countries for revenue purposes, fall in the same general class.

The various possible practices of state-trading organizations affect international trade in varying degrees. Major commercial-policy problems regarding

state trading arise mainly from the use by such organizations of methods which are restrictive of trade, whenever used, and, secondly, from the difficulty of applying to state-trading organizations the standards of commercial practices that have grown up in connection with private trading. The Proposals, therefore, seek, through agreement on the rules under which state-trading organizations shall operate, to provide a basis on which countries employing state-trading organizations can carry on an expanding trade with countries in which trade is carried on mainly by private enterprise.

For example, the rules might state that the channeling of purchases from a source chosen for political rather than economic reasons, whether in connection with quotas or with state-trading organizations, may distort or restrict the flow of trade and would, therefore, be prohibited. Purchase of goods by an import monopoly for resale in the domestic market at a price higher than the landed cost is equivalent to the imposition of a tariff, and such differences would, therefore, be subjected to the same treatment as tariffs. That is, protective margins employed by state-trading monopolies would be regarded as eligible for binding or reduction, like tariffs, and an agreed level of tariff protection might not be increased by subsequently establishing state monopolies to resell the commodity at an increased differential above world prices.

Finally, since the Proposals are aimed at the expansion of foreign trade, it is provided that state-trading countries or organizations should undertake to purchase minimum amounts of goods annually, subject to periodic adjustment in consultation with the International Trade Organization.

CONCLUSION: These sections of the Proposals, dealing with trade barriers, like other sections, represent a carefully prepared draft for consideration by a conference of many nations. During the months to come, other countries will be expressing their views on these Proposals; and the final charter or agreement, when concluded, will represent the combined views of all participating nations. Nevertheless, it can be said now that if the substance of the Proposals is in the main adhered to by the world's great trading nations, a great advance toward the expansion of trade will have been made.



Fishery Education

Albert M. Day, Director of the Fish and Wildlife Service, United States Department of the Interior, announced on July 29 the establishment of a fishery educational section.

This will extend to the fishing industry knowledge of new and improved technical processes as developed in the Fish and Wildlife Service research laboratories. It will work closely with the fishing industry in the production of educational motion pictures, training film strips, educational leaflets, fishery manuals, and other graphic material. Field demonstrators will instruct fish tradesmen in the proper handling of fishery products, and consumer groups, home economists, food editors, and others in fish cookery methods.

The new section will cooperate with vocational schools and other educational institutions in establishing commercial fishery courses for training students in

fishery technology. Since facilities for this type of training are now very limited throughout the United States, expansion in this direction is an important phase of the program, Mr. Day stated.

Richard T. Whiteleather will organize the staff and head the Educational Section, which will have its central office in Washington. Mr. Whiteleather has had a wide experience in the work of the Service, and comes to his present assignment from New York City, where he headed the Commercial Fishery Division office, including supervision of the Market News work.



Pilchard Allocation Program Suspended

Landings of pilchards will not be allocated between canneries and reduction plants on the Pacific Coast during the 1946-47 season, which begins August 1 in northern California, A. W. Anderson, Acting Assistant Director of the Fish and Wildlife Service, Department of the Interior, announced on July 3.

A hearing on the need for an allocation program to insure a maximum canned pack of pilchards, as requested by the Department of Agriculture, was held by the Service in San Francisco on June 12. At this meeting members of the fishing industry and interested Federal and State agencies presented their views with respect to the continuation of a program similar to that administered by the Department of the Interior during the three preceding seasons.

After considering the numerous problems involved in allocation as raised at the hearing, and conferring with the Department of Agriculture regarding its current need for canned pilchards, the Service accepted the assurance of the industry that an all-out canning effort would be made and that the required production of canned pilchards could best be achieved without an allocation program.



Reorganization of the Fish and Wildlife Service

In line with the recent reorganization of the Fish and Wildlife Service of the Department of the Interior, Albert M. Day, Director of the Service, announced on July 17 the promotion of W. R. Dillon to become Chief, Branch of Administration, and Oscar H. Johnson to be Chief, Branch of Management.

The new plan of operation provides for the concentration of Service functions in four branches concerned with administration, research, commercial fisheries, and management of fish and game resources. This streamlining of the work of the Service by placing similar lines of activities under the same branch is designed to improve the agency's services to the public.

Mr. Dillon, who has been Chief of the Division of Administration since 1935, has been with the Service in various administrative capacities since 1914. The

new branch, headed by Mr. Dillon, deals with the activities of the Service concerned with the budget, finance, personnel administration, procurement of equipment and property, and various related functions both in the Central Office and in the field.

Mr. Johnson, as Regional Director of Region 3 since May 1944, with headquarters at Minneapolis, Minn., has directed the field activities of the Service in the States of North Dakota, South Dakota, Nebraska, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, and Indiana. He joined the Service in July 1939 as a Federal Aid regional inspector at Denver, Colo.

The Branch of Management, over which Mr. Johnson will preside, includes the activities carried on by the Divisions of Federal Aid in Wildlife Restoration, Predator and Rodent Control, Wildlife Refuges, Game Management, Game-fish and Hatcheries, and Lands. Since the work of all these Divisions now clears through the Regional Offices, the new Branch set-up will serve to bring the Regional Offices and the Central Office still closer together in their daily operations.



Wholesale and Retail Prices

Both wholesale and retail prices for all foods displayed small increases from mid-March to mid-April, according to reports of the Bureau of Labor Statistics, Department of Labor. Average retail prices for fresh and canned and fresh and frozen fish declined 2.8 and 3.5 percent, respectively, during the period, but showed increases of 4.4 and 4.6 percent, respectively, on April 16 as compared with April 17, 1945. Pink salmon prices fell 0.3 percent from mid-March to mid-April, while those for red salmon rose 1.4 percent.

Wholesale and Retail Prices				
Item	Unit	Percentage change from—		
Wholesale: (1926 = 100)		Apr. 13, 1946	Mar. 16, 1946	Apr. 14, 1945
All commodities	Index No.	109.3	+0.8	+3.6
Foods	do	109.9	+0.4	+4.2
		April 1946	March 1946	April 1945
Fish:				
Canned salmon, Seattle:				
Pink, No. 1, Tall	\$ per doz. cans	1.970	0	0
Red, No. 1, Tall	do	3.694	0	0
Cod, cured, large shore, Gloucester, Mass.	\$ per 100 pounds	13.50	0	0
Herring, pickled, N. Y.	\$ per pound	12.00	0	0
Salmon, Alaska, smoked, N. Y.	do	35.00	0	0
Retail: (1935-39 = 100)		Apr. 16, 1946	Mar. 12, 1946	Apr. 17, 1945
All foods	Index No.	141.7	+1.1	+3.7
Fish:				
Fresh and canned	do	221.3	-2.8	+4.4
Fresh and frozen	\$ per pound	37.0	-3.5	+4.6
Canned salmon:				
Pink	\$ per pound can	24.8	-0.3	+1.0
Red	do	43.9	+1.4	+7.6

Seaweed Colloids

Certain persons in the fishery industry will be interested in a new text on colloid chemistry. This book, entitled Colloid Chemistry, contains material collected and edited by Jerome Alexander, and is published by the Reinhold Publishing Corporation, 330 W. 42nd St., New York City.

A section concerning seaweed colloids may be found on pages 629-734. This particular section is written by C. K. Tseng of Scripps Institution of Oceanography at La Jolla, California, and includes 9 pages of references on seaweed colloids.



KEEPING QUALITY OF EAST COAST CRAB MEAT

With the increased usage of heavily-waxed fiberboard containers brought about by restrictions placed on the use of metal during World War II, the question arose regarding the keeping quality of fresh-cooked East Coast crabmeat packed in these containers. During a survey of crabmeat dealers in several large cities, the complaint was heard that the meat does not remain in a fresh condition for as long a period in heavily-waxed fiberboard containers as in tin cans, especially when shipped in very warm weather. On the other hand, a number of dealers reported the crabmeat to keep equally well in either type of container.



In view of this disagreement of opinion among the handlers of fresh-cooked crabmeat, and as a phase of the general container investigation, preliminary tests were conducted to determine whether the storage life of properly refrigerated fresh-cooked East Coast crabmeat is affected by packing in fiberboard containers. In addition to the heavily-waxed fiberboard crabmeat containers, the effect of other types of containers was also studied. One-pound size containers were used in all tests.

Results of these studies have been compiled by the Fish and Wildlife Service and set forth in Fishery Leaflet 185, which may be obtained, free of charge, from that Service at Chicago 54, Ill.

FOREIGN FISHERY TRADE

Imports and Exports

GROUNDFISH IMPORTS: From January 1 through June 29, 1946, there were 24,676,000 pounds of fresh and frozen groundfish imported into the United States under the special tariff classification "Fish, fresh or frozen fillets, steaks, etc., of cod, haddock, hake, cusk, pollock, and rosefish." Approximately 19,615,000 pounds were received during the corresponding period in 1945, according to a report received from the Bureau of Customs of the Treasury Department. The reduced tariff quota for the year is 20,380,724 pounds.

Commodity	June 2-29, 1946	Apr. 27- June 1, 1946	June 1945	Jan. 1- June 29, 1946	Jan. 1- June 30, 1945
Fish, fresh or frozen fillets, steaks, etc., of cod, haddock, hake, cusk, pollock, and rosefish	4,330,976	3,983,146	3,176,093	24,675,749	19,615,133



Canada

COLD-STORAGE: Canadian freezings of fresh fishery products in May totaled 14,422,000 pounds. Heaviest freezings were of whole cod, cod fillets, and halibut, according to a preliminary report of the Department of Trade and Commerce of the Dominion Bureau of Statistics. Holdings totaled 22,309,000 pounds on June 1, compared with 15,537,000 pounds on May 1 and 17,489,000 pounds on June 1, 1945.



Ecuador

FISHING REGULATION: A report from the American Embassy at Quito, Ecuador, received by the State Department on July 1, 1946, states that the President of Ecuador, on December 27, 1945, signed Executive Decree No. 2160, which imposes penalties for the violation of the basic fishing regulation or for the use of nets. This decree, the execution of which is under the jurisdiction of the Ministries of National Defense, Foreign Affairs, Treasury and Economy, became effective by its publication on March 27, 1946. The only change effected by this decree is the addition of a paragraph to Article 5 of the basic Tuna Fishing Regulation, which was promulgated on February 21, 1940, and subsequently amended.

Decree No. 2160 imposes sanctions upon nationalities other than Ecuadoran who use purse seines in the continental waters. This means that fishing vessels

from Peru, the United States, or other countries, which may be licensed by Ecuadoran consuls, will be subject to the penalty set forth in Decree No. 2160. This decree does not modify the previous regulation concerning the use of nets, including the prohibition against the use of nets in the Galapagos Islands. It merely clarifies the authority of Ecuadoran Government officials to impose sanctions and states the sanctions which will be imposed if the regulation is violated.



French Morocco

SARDINE INDUSTRY: The fishing industry in Morocco is a comparatively recent development, according to a report received by the U. S. Department of State on June 13 from the American Consulate at Rabat, Morocco. The report is in part as follows:



In 1922, total production was about 2,200 metric tons. It reached 10,000 tons in 1930, 30,000 tons in 1937, and 36,000 tons in 1939. During the first years of the war, this production dropped considerably, but again passed 30,000 tons in 1943. At present it may be placed at slightly over 30,000 tons, two-thirds representing sardines.

The tonnage of the fishing fleet is roughly 5,000 tons. Of the 4,500 men employed, 75 percent are native Moroccans. The fleet consists of 20 trawlers, 140 sardine boats, 75 motor launches, and about 700 small sail boats. In addition, there are seven trawlers chartered by the French Government. These are the only vessels large enough for fishing on the high seas. Their catch is reserved principally for distribution in France and Algeria. It can be seen, therefore, that under present conditions, whatever there is of a large-scale fishing industry in Morocco is confined to sardines.

There are 50 sardine canneries in Morocco which are divided among the various ports. In addition to these canneries, there are 29 factories that prepare brined and smoked fish. These, however, represent what might be called a wartime industry, which developed out of the shortage of canning material. Production at these factories has reached 4,000 tons, as compared with only a few hundred tons before the war. A return to normal conditions will perforce reduce this production considerably.

The sardine canneries have, to the present time, been operating at only about 50 percent of their potential capacity, which is placed at one million cases of sardines per year (100 cans of $\frac{1}{4}$ kg. net per case). It is for this reason, probably, that no further authorizations are being issued by the Protectorate Government to open new factories.

Total sardine production, even in the best years, has not exceeded much more than half of the estimated potential capacity of the canneries. During the war

years, production was only one-fourth of this potential capacity, primarily because of shortages in canning material and because of wartime military restrictions imposed on the activity of the fishing boats.

As for the 1945-46 season, production had to be stopped in October because of the shortages of metal and oil. Production had by that time reached 500,000 cases.

The greatest difficulty foreseen in attaining a high production goal in 1946-47 is the shortage of oil. At least 3,800 tons of oil will be needed. This represents about one-fifth of an entire year's supply for the very limited edible oil ration for the Moroccan populace.

Before the war local consumption was not very great. All but 20,000 to 30,000 cases were exported, 40 percent to France and the rest to other countries. During the first years of the war (1940-42), exports were to France alone. In 1943, however, 87,480 cases were purchased by the British Ministry of Food.

Because of the shortage of meat, Morocco's civilian consumption of fish has increased. Of the 1945 production, 253,000 cases were reserved for civilian consumption; the remainder was to be exported.



Iceland

ECONOMIC REVIEW OF ICELAND'S FISHING INDUSTRY--1945: The economic pulse of the nation quickened in the early months of 1945 in anticipation of the cessation of hostilities in Europe and continued to beat rapidly throughout the remainder of the year as Iceland girded itself to meet the conditions of the postwar world and the unleashing of competition from the fisheries of the liberated countries of Europe, according to a report dated April 3, 1946, received by the U. S. Department of State from the American Legation at Reykjavik, Iceland.

As the year opened, the Government's industries revitalization program with its far-reaching plan to re-equip the fisheries, mechanize agriculture, and expand transportation and power facilities in order to improve the country's competitive position was already under way and was gaining momentum. Orders were placed in Denmark, Great Britain, and Sweden for new fast merchant vessels, large trawlers, and smaller motor boats.

The termination of the war in Europe brought heightened anxiety over the possible future losses of a great part of the British market for Icelandic fishery products, where for the five preceding years these items enjoyed a maximum demand and provided nearly 90 percent of the export income of the country. Steps were



taken even before the war's end to commence two-way trade relations with Scandinavia and the Continent. As soon as conditions permitted, Government emissaries and businessmen were dispatched to Sweden, Denmark, France, Belgium, and other European countries to survey marketing and purchasing possibilities and to arrange for trade agreements.

The first and perhaps most significant of these agreements was made with Sweden. Iceland contracted to deliver to Sweden 125,000 barrels of salted and cured herring in return for which Sweden offered to supply to Iceland necessary wooden packing barrels, consumer goods, industrial machinery, agricultural implements, power equipment, lumber, fishing vessels, and communications equipment. The north coast summer herring run turned out to be an unusually poor one and only about 75,000 barrels of herring could be produced, an insufficient amount to meet the cost of goods ordered in Sweden.

Despite the changing international scene, Iceland's trade position remained firm throughout the year, and at the year's end Iceland's fresh fish sales agreement with Great Britain was extended for another three months. Quick-frozen fish fillet deliveries to Great Britain continued at peak levels through December 31. However, a sudden decision on the part of Britain to cease all purchases of Icelandic frozen fish at the year's close brought near-panic to freezing plant owners and other investors in this branch of the nation's fishing industry. As the year ended, hurried efforts were being initiated to market future frozen fish fillet production in the United States, France, Czechoslovakia, and other European countries.



Panama

BAIT FISHING: On April 27, 1946, the Government of Panama issued Decree Number 408, regulating bait-fishing in Panama waters. Excerpts follow:

Fishing for bait shall only be permitted to sea-going vessels within the jurisdictional waters of the Republic located to the South of 8 degrees 30 minutes of North Latitude, and not included in special agreements concluded with the Nation.



The owners or skippers of boats which are engaged in this type of fishing shall obtain an annual permit which will be issued by the Ministry of Agriculture, Commerce and Industry and the navigation permit issued by the Ministry of Hacienda and Treasury in these cases.

The tax to which this type of fishing shall be subject shall be progressive and shall be fixed according to the gross tonnage of the vessel, as is specified below:

Vessels less than 25 tons	B.150.00	Vessels from 25 to 50 tons	B.200.00
Vessels from 50 to 100 tons ..	300.00	Vessels from 100 to 150 tons ..	350.00
Vessels from 150 tons	500.00		

Fishing for bait by sea-going vessels shall be permitted only during the following periods: from January 15 to April 15 and from June 15 to September 30 of each year, fishing being prohibited during the months not included in the said periods.

In order to be allowed to fish for bait during the months fixed in this decree when fishing is prohibited, a special permit is necessary from the Ministry of Agriculture, Commerce and Industry, which may grant it when it is provided with proof that the vessel could not operate in the periods authorized, because of some fortuitous circumstance.

To kill, mutilate, or render useless in any way, the kinds of fish caught in the nets used in fishing for bait, and which are not suited for that purpose, shall be prohibited. Captains or skippers of vessels shall see to it that the fish which they do not wish to use as food for the crew are returned alive to the sea. It shall also be forbidden for members of the crew and representatives of these vessels to sell any fishing product within the jurisdictional waters of the Republic or in local markets.

Skippers of fishing boats shall be obliged to send, at the end of each fishing season, to the Ministry of Agriculture, Commerce and Industry a detailed report on the quantity, in pounds of the bait caught and on the kind of said bait. Fishing for bait includes only sardines and anchovies.

Violators of this decree shall be punished with fines of not less than five hundred balboas (B. 500.00) and not more than two thousand balboas (B. 2000.00) which shall be imposed by the Ministry of Agriculture, Commerce and Industry, which may designate, when it considers it advisable, persons or groups who shall cooperate in the control of fishing and the collection of the tax.



Peru

EXPORT DUTIES: The new system for the assessment of export duties on fish in Lima, Peru, has been described in a report dated June 18 to the U. S. Department of State from the American Embassy at Lima.

The system has been described as follows:

According to Law No. 10545 of April 16, 1946, published in the official gazette "El Peruano" of June 1, 1946, the collection of export duties on frozen tuna fish, bonito, skipjack and fish livers, as provided by Law No. 9506 of December 31, 1941, is extended to cover all kinds of fish exported from Peru; fresh, frozen, salted, or preserved. Pursuant to Article 2 of Law No. 10545, fish exports will be subject also to the payment of the additional 10 percent ad valorem export tax established by Law No. 9466 of December 18, 1941, which is payable when the export quotation exceeds by 25 percent the base price fixed for the assessment of export duties. A supplementary resolution dated April 20, 1946, instructed Peruvian customs house authorities to begin the collection of export duties on fish, effective April 20, 1946, as prescribed by Law No. 10545. The following base prices have been established for the assessment of export duties:

Salted fish - 160 dollars, U. S. Cy. per short ton.
Canned fish - 425 dollars, U. S. Cy. per short ton.

Law No. 9506 of December 31, 1941, established export duties on frozen tuna fish, bonito, skipjack and fish livers as follows:

Ten percent on frozen tuna fish on the difference between the basic production cost at Peruvian port, fixed at 50 dollars, U. S. Cy. per short ton, net weight, and the declared export price, less freight and insurance charges.

Ten percent on frozen bonito and skipjack on the difference between the basic production cost, fixed at 40 dollars, U. S. Cy. per short ton, net weight, and the declared export price, less freight and insurance charges.

Ten dollars U. S. Cy. per metric ton, net weight, on fish livers of all kinds.

FISH COLLECTING PLANTS: In Supreme Resolution No. 268 of June 12, 1946, published in the local newspapers of Lima, Peru, on June 21, 1946, authority is vested in the Ministry of Agriculture to establish plants for the collection, cleaning, salting, and smoking of fish, or to enter into contracts with local entities for the same purpose, according to an announcement made by the American Embassy at Lima, Peru, on June 28, 1946, received by the State Department at Washington, D. C.

It was stated that the purpose of the above resolution is to develop the fishery industry, thus contributing to the solution of the domestic meat problem.



Puerto Rico and the Virgin Islands have no very extensive fishery resources. Tropical bank and reef fishes, like snappers and basses, are taken all year 'round, and tunas, mackerels, and jacks during their seasonal migrations.

The 1940 catch was 3.7 million pounds.

--Senate Document No. 51

FEDERAL LEGISLATION, DECISIONS, ORDERS, ETC.

Department of Agriculture

FATS AND OILS: The Department of Agriculture, on July 3, announced quotas for the use of fats and oils in producing margarine, shortening, and cooking and salad oils, for the period July 1 to September 30, 1946. The action was taken through a new amendment to WFO-42.

To relieve the extreme fats and oils shortage conditions in 25 Western and Southern States, an emergency quota amounting to an additional 6 percent was authorized for the quarter. This action will channel about 30 million pounds of fats and oils into the following States:

Virginia	Georgia	Kentucky	Oklahoma	Arizona	Idaho
West Virginia	Alabama	Tennessee	Arkansas	California	Montana
North Carolina	Mississippi	Louisiana	Colorado	Oregon	Nevada
South Carolina	Florida	Texas	New Mexico	Washington	Utah
					Wyoming

Each State's share of the emergency quota was determined through a special analysis of relative scarcity. While work is already in progress to get some of the 30-million pound emergency allocation into the 25 States, it may be July 5 to July 10 before the effect of this move will begin to be felt in all areas.

SALMON PACK ALLOCATION WITHDRAWN: The Department of Agriculture, on July 19, ended requirements that canners set aside portions of their 1946 chum salmon pack for Governmental use.

It is estimated that over 238,000 cases of this most economical variety of salmon will be released to domestic consumers by the action taken in the 20th amendment to WFO-44. Officials revealed that the new order, which applies to all canners in Continental United States and Alaska, excludes this class of salmon from the quota provisions of the old order but requires that canners must continue to report their pack of chum along with other species of salmon.

The original order required that during the year starting April 1, 1946, one-third of the chum pack be reserved for Government purchase to be used by UNRRA in relief feeding. Recently, it was decided to eliminate canned salmon shipments from the relief program.

Quotas for other classes of canned fish in the order remain 33 percent for all salmon except chum, and 45 percent for Atlantic and Pacific mackerel, pilchards, and Atlantic sea herring.

IMPORT CONTROLS: The Department of Agriculture freed 11 classes of foods from import control in issuing Amdt. 12 to WFO-63, which controls the importation of food items into the continental United States, Puerto Rico, and the Virgin Islands.

This amendment, which became effective July 23, removed the following from import controls:

Cohune nuts and kernels; cohune nut oil; alewives and other pickled or salted fish; fish cakes, balls, and pudding, in oil or in oil and other substances; fish paste and fish sauce; all types of salted or pickled herring, including sprats, pilchards, and anchovies; canned oysters; canned clams and clams in combination with other substances (except clam chowder); canned razor clams; canned lobster, including spiny lobsters and crawfish; and lobster paste and sauce.

SALTED FISH: The Combined Food Board announced on July 1 recommended allocations of salted fish from the 1946 catches.

Exportable supplies are presently estimated at approximately 293,470,000 pounds, dry-salt basis, from the following sources:

Norway	124,800,000 lbs.	Denmark	12,170,000 lbs.
Newfoundland	110,000,000 "	Greenland	6,000,000 "
Canada	40,500,000 "		

The Board pointed out that, although estimated supplies are considerably short of total stated import needs, requirements of UNRRA will be substantially met by a recommended allocation of over 22 percent of the total supply.

The recommendation applies to the distribution of salted cod, haddock, hake, cusk, pollock, saithe, and ling, whether dry, semi-dry, wet-salted, or green.

The recommended distribution is indicated below.

Claimant	Thous. of lbs.	Claimant	Thous. of lbs.
UNRRA Countries	65,150	Brazil	15,400
Portugal	48,000	Cuba	15,150
British Caribbean	35,100	United Kingdom	8,000
Spain	30,000	Argentina & Uruguay	6,800
U. S. Territories	28,000	France	5,750
Continental United States	20,300	Other :	15,820
		Grand Total	293,470



Department of Commerce

CANNED FISH: Current Export Bulletin No. 337, dated May 24, 1946, issued by the Office of International Trade of the U. S. Department of Commerce, announced that all unlicensed balances of second quarter allocations of meats, dairy products, fats and oils (including soaps), canned fish, and sugar from United States supplies for the Philippines had been cancelled by the Department of Agriculture, and until further notice, therefore, the Office of International Trade would be unable to grant licenses to export these foods to the Philippines.

The Department of Agriculture has now advised that, except for sugar, commercial allocations of these commodities will be made available for export to the

Philippine Islands during the third quarter. Exporters should realize, however, that the total amount of each commodity which may be allocated for export is dependent upon the current domestic supply situation.

Effective immediately (July 3), therefore, exporters interested in shipping meats, dairy products, fats and oils (including soaps), or canned fish to the Philippines during the third quarter of 1946 may file their license applications with the Office of International Trade. As stated in Current Export Bulletin No. 337, when licensing these third quarter allocations, due consideration will be given to inequities caused by the cancellation of the second quarter allocations.



Food and Drug Administration

OYSTER STANDARDS: Following extended hearings with the oyster industry, the Food and Drug Administration, on July 3, in accordance with findings of facts, proposed that:

Oysters be packed in designated classifications permitting a minimum of variation from a standard size and count.

The draining and "blowing" time for oysters be shortened and standardized as much as possible.

Practices which cause oysters to absorb water prior to shucking be prohibited.

To accomplish these purposes, the agency proposed to issue the following regulations fixing standards of identity for raw oysters:

§ 36.10 *Raw oysters, shucked oysters; identity.* (a) Raw oysters, shucked oysters, are the class of foods each of which is obtained by shucking shell oysters and preparing them in accordance with the procedure prescribed in paragraph (b). The name of each such food is the name specified in the applicable definition and standard of identity prescribed in §§ 36.11 to 36.22, inclusive.

(b) If water, or salt water containing less than 0.75 percent salt, is used in any vessel into which the oysters are shucked, the combined volume of oysters and liquid when such oysters are emptied from such vessel is not less than four times the volume of such water or salt water. Any liquid accumulated with the oysters is removed. The oysters are washed, by blowing or otherwise, in water or salt water, or both. The total time that the oysters are in contact with water or salt water after leaving the shucker, including the time of washing, rinsing, and any other contact with water or salt water is not more than thirty minutes. In computing the time of contact with water or salt water, the length of time that oysters are in contact with water or salt water that is agitated by blowing or otherwise shall be calculated at twice its

actual length. Any period of time that oysters are in contact with salt water containing not less than 0.75 percent salt before contact with oysters, shall not be including in computing the time that the oysters are in contact with water or salt water. Before packing into the containers for shipment or other delivery for consumption the oysters are thoroughly drained and are packed without any added substance.

(c) For the purposes of this section:

(1) "Shell oysters" means live oysters of any of the species, *Ostrea virginica*, *Ostrea gigas*, *Ostrea lurida*, in the shell, which, after removal from their beds, have not been floated or otherwise held under conditions which result in the addition of water.

(2) "Thoroughly drained" means one of the following: (i) the oysters are drained on a strainer or skimmer which has an area of not less than 300 square inches per gallon of oysters drained and has perforations of at least $\frac{1}{4}$ of an inch in diameter and not more than $1\frac{1}{4}$ inches apart, or perforations of equivalent areas and distribution. The oysters are distributed evenly over the draining surface of the skimmer and drained for not less than five minutes; or (ii) the oysters

are drained by any method other than that prescribed by subdivision (1) whereby liquid from the oysters is removed so that when the oysters are tested within 15 minutes after packing by draining a representative gallon of oysters on a skimmer of the dimensions and in the manner described in subdivision (1) for 2 minutes, not more than 5 percent of liquid by weight is removed by such draining.

§ 36.11* *Extra large raw oysters, raw oysters counts (or plants), extra large shucked oysters, shucked oysters counts (or plants); identity.* Extra large raw oysters, raw oysters counts (or plants), extra large shucked oysters, shucked oysters counts (or plants), are of the species *Ostrea virginica* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10 and are of such size that one gallon contains not more than 160 oysters and a quart of the smallest oysters selected therefrom contains not more than 44 oysters.

§ 36.12 *Large raw oysters, raw oysters extra selects, large shucked oysters, shucked oysters extra selects; identity.* Large raw oysters, raw oysters extra selects, large shucked oysters, shucked oysters extra selects, are of the species *Ostrea virginica* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10 and are of such size that one gallon contains more than 160 oysters but not more than 210 oysters; a quart of the smallest oysters selected therefrom contains not more than 58 oysters, and a quart of the largest oysters selected therefrom contains more than 36 oysters.

§ 36.13 *Medium raw oysters, raw oysters selects, medium shucked oysters, shucked oysters selects; identity.* Medium raw oysters, raw oysters selects, medium shucked oysters, shucked oysters selects, are of the species *Ostrea virginica* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10 and are of such size that one gallon contains more than 210 oysters but not more than 300 oysters; a quart of the smallest oysters selected therefrom contains not more than 83 oysters, and a quart of the largest oysters selected therefrom contains more than 46 oysters.

§ 36.14 *Small raw oysters, raw oysters standards, small shucked oysters, shucked oysters standards; identity.* Small raw oysters, raw oysters standards, small shucked oysters, shucked oysters standards, are of the species *Ostrea virginica* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10 and are of such size that one gallon contains more than 300 oysters but not more than 500 oysters; a quart of the smallest oysters selected therefrom contains not more than 138 oysters and a quart of the largest oysters selected therefrom contains more than 68 oysters.

§ 36.15 *Very small raw oysters, very small shucked oysters; identity.* Very

small raw oysters, very small shucked oysters, are of the species *Ostrea virginica* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10 and are of such size that one gallon contains more than 500 oysters, and a quart of the largest oysters selected therefrom contains more than 112 oysters.

§ 36.16 *Raw Olympia oysters, shucked Olympia oysters; identity.* Raw Olympia oysters, shucked Olympia oysters are of the species *Ostrea lurida* and conform to the definition and standard of identity prescribed for raw oysters in § 36.10.

§ 36.17 *Raw Pacific oysters size 5 to 8 per pint, shucked Pacific oysters size 5 to 8 per pint; identity.* Raw Pacific oysters size 5 to 8 per pint, shucked Pacific oysters size 5 to 8 per pint, are of the species *Ostrea gigas* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10 and are of such size that one gallon contains less than 65 oysters and the largest oyster in the container is not more than twice the weight of the smallest oyster therein.

§ 36.18 *Raw Pacific oysters size 8 to 10 per pint, shucked Pacific oysters size 8 to 10 per pint; identity.* Raw Pacific oysters size 8 to 10 per pint, shucked Pacific oysters size 8 to 10 per pint, are of the species *Ostrea gigas* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10 and are of such size that one gallon contains more than 64 and not more than 80 oysters, and the largest oyster in the container is not more than twice the weight of the smallest oyster therein.

§ 36.19 *Raw Pacific oysters size 10 to 12 per pint, shucked Pacific oysters size 10 to 12 per pint; identity.* Raw Pacific oysters size 10 to 12 per pint, shucked Pacific oysters size 10 to 12 per pint, are of the species *Ostrea gigas* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10 and are of such size that one gallon contains more than 80 and not more than 96 oysters, and the largest oyster in the container is not more than twice the weight of the smallest oyster therein.

§ 36.20 *Raw Pacific oysters size 12 to 15 per pint, shucked Pacific oysters size 12 to 15 per pint; identity.* Raw Pacific oysters size 12 to 15 per pint, shucked Pacific oysters size 12 to 15 per pint, are of the species *Ostrea gigas* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10 and are of such size that one gallon contains more than 96 and not more than 120 oysters, and the largest oyster in the container is not more than twice the weight of the smallest oyster therein.

§ 36.21 *Raw Pacific oysters size 15 to 18 per pint, shucked Pacific oysters size 15 to 18 per pint; identity.* Raw Pacific oysters size 15 to 18 per pint, shucked Pacific oysters size 15 to 18 per pint, are of the species *Ostrea gigas* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10

and are of such size that one gallon contains more than 120 and not more than 144 oysters, and the largest oyster in the container is not more than twice the weight of the smallest oyster therein.

§ 36.22 *Raw Pacific oysters size over 18 per pint, shucked Pacific oysters size over 18 per pint; identity.* Raw Pacific oysters size over 18 per pint, shucked Pacific oysters size over 18 per pint, are of the species *Ostrea gigas* and conform to the definition and standard of identity prescribed for raw oysters by § 36.10 and are of such size that one gallon contains more than 144 oysters and the largest oyster in the container is not more than twice the weight of the smallest oyster therein.

Any interested person whose appearance was filed at the hearing may, within

20 days from the date of publication of this proposed order in the *FEDERAL REGISTER*, file with the Hearing Clerk of the Federal Security Agency, Office of the General Counsel, Room 3257 Social Security Building, 4th Street and Independence Avenue, S. W., Washington, D. C., written exceptions thereto. Exceptions shall point out with particularity the alleged errors in the proposed order, and shall contain specific references to the pages of the transcript of the testimony or to the exhibits on which each exception is based. Such exceptions may be accompanied with a memorandum or brief in support thereof. Exceptions and accompanying memoranda or briefs should be submitted in quintuplicate.

Washington, D. C., July 3, 1946.

[SEAL]

MAURICE COLLINS,
Acting Administrator.



Department of the Interior

HALIBUT ALLOCATION: Allocation of catches of Pacific Halibut were suspended on July 22, until further notice by the Area Coordinator for the Fish and Wildlife Service at Seattle. The pertinent points of Directive 14, which suspended allocation, follow:

1. All allocation schedules set up under paragraph I are hereby suspended until further notice, subject to the requirement that all dealers possess permits to purchase halibut.
2. Any person possessing a valid permit may operate as a dealer without limit on his purchases.
3. Permit suspended because poundage allocations have been reached or exceeded are again valid and not subject to such allocations.
4. Permits for unlimited poundage will be issued to any person upon request to the Area Coordinator.

HALIBUT ALLOCATION APPEAL: The decision of the Department of the Interior in judging an appeal from a decision of the Area Coordinator with respect to allocation of halibut in Tacoma, Washington, was announced on June 25. Excerpts from the ruling follow:

The halibut allocation order is an extraordinary measure prompted by wartime conditions. Its purpose is to preserve the historical channels of distribution during times of emergency. Appellant cannot base his request for a higher allocation on any historical data as a primary shipper. The 1945 allocation was the historical basis for the 1946 allocation. Appellant could not in 1946 enlarge his port facilities or equipment and hope, as a result, to obtain a higher allocation. He should have known that acceptance of higher landings or landings from more boats would upset the historical channels of distribution. Consequently, any enlargement of facilities was made at his own risk.

Since the halibut order applies only to the delivery of fish to primary dealers, and to transactions by such primary dealers, the historical data presented by appellant to prove his activities as a secondary wholesaler are ineffective to support his appeal. He is not barred from continuing his purchases from the same firm from which he bought in 1939, 1940, 1941, 1942, and 1944. On the contrary, maintaining such connections is in line with the purposes of the halibut allocation order.

Appellant's contention that he would have purchased halibut in previous years from primary sources (fishermen) instead of from primary dealers if he had not been forced by the rules of the Halibut Exchange in Seattle, and fishermen's union requirements to purchase halibut from primary dealers, is not material to a reallocation of privileges on the basis of historical channels of distribution as required by the allocation order, particularly since the appellant continued to purchase solely as a secondary wholesaler after the rules of the Halibut Exchange and of the union were abolished by consent-decree in 1942. The promise of appellant to market the halibut "in the natural business channels of the retail trade" likewise cannot alter the necessary conclusion, since, if approved, the request of appellant would favor Tacoma and the surrounding areas at the expense of those primary shippers who would be deprived of their income from halibut sales which are justifiable under historical conditions.

The appeal of the Marush Fish and Oyster Company accordingly is dismissed, and the decision of the Area Coordinator is affirmed.



Office of Price Administration

CANNED SALMON PRICES: Amdt. 4 to MPR-265, issued by OPA on June 28, increased by 10 percent canners' prices for all varieties of canned salmon covered by this regulation. Provision was made for notification of this increase to wholesalers and retailers so that they might recalculate their maximum prices and pass the increase on to the consumer. The increased price to the consumer for a one pound can of pink salmon would be about 2 to 3 cents. The increased price for a one pound can of Alaska chinook salmon would be about 4 to 5 cents.

Dollar-and-cent maximum prices for canned salmon were first established in the latter part of 1942 and have remained substantially unchanged since that time. For the coming season the industry is faced with increased labor costs in Alaska, both in the cannery and on the fishing grounds, which have been approved by the Wage Stabilization Board. In addition the Territory of Alaska has increased territorial taxes on fishing traps and will levy in 1946 a tax of 10 cents per case on all king, red, and sockeye salmon and 4 cents per case for other species. A tax of 1/2 of 1 percent is also being levied on the gross market value of the pack. Although the Fish and Wildlife Service of the Department of the Interior estimates that the Alaskan pack will during the coming season be about 20 percent greater than last year's pack on an over-all basis, the greater part of this increase will be in the pack of pink salmon, which is a cheaper, less profitable item. On the other hand, it is estimated that the pack of the more expensive and more profitable king salmon will decrease by about 4 percent.

Under these conditions the present prices are not sufficient to encourage the salmon canners to make the large pre-season outlays necessary to achieve the maximum production in Alaska. Such outlays are necessary so that labor and facilities may be transported and maintained in the remote Alaskan canning areas

throughout the packing season, according to OPA. At the present prices the industry was prepared to curtail its operations in Alaska to guard against possible losses.

Canned salmon is important in the procurement programs of the Department of Agriculture; it has a 33 percent set aside on the canned salmon pack. The present increase was discussed with the Department of Agriculture and was made on the basis of a detailed study of the salmon canning industry. The new prices take into account the increased labor costs and Alaskan taxes projected for the coming season. Accordingly, no provision was made for the addition of any taxes to the maximum prices. The increase will return more than 1936-39 earnings--the minimum required by law. It will return approximately the percentage on net worth which the industry averaged during the years 1936, 1937, 1939, and 1940.

The 10 percent increase is also applicable to canned salmon produced in the Pacific Coast States. This pack comprised less than 10 percent of the total pack last year. The maintenance of a balanced price relationship between Alaska salmon and salmon packed in the Pacific States should achieve maximum production in all parts of the salmon industry and avoid any greater emphasis on Alaskan operations at the expense of the other salmon canning operations.

The increase in canned salmon prices produced in the Pacific Coast States also makes it possible to increase fishermen's prices for sockeye, steelhead, and chinook salmon, other than troll caught, sold for canning during the spring and summer canning season. Accordingly, Amdt. 19 to MPR-579, which is being issued simultaneously with this amendment, increases the fishermen's price for these varieties when sold to canners for canning purposes by 2 cents a pound. This increase applies from May 1 to August 31, which is the spring and summer canning season for these species.

A comparison of fishermen's prices during the spring and summer months with the prices during the fall months indicates that prices during the fall of 1942 rose more sharply than those in the spring and summer months of that year. This increase will give the fishermen approximately the same increase over 1941 prices for the spring and summer catch as they now have for the fall catch. It will tend to encourage production during the spring and summer season, and it is made in those varieties and to the extent that it will not affect canned salmon prices.

The increase in fresh salmon prices is expressly made retroactive to leave the fisherman and the canners free to negotiate up to the maximum price now being put into effect for fish already delivered and canned. The canners have not yet sold the pack produced since May 1, and when it is sold it will be at the higher prices established by this amendment which take into account this higher cost of fish. Both the canners and the fishermen have requested this freedom to renegotiate.

This action preserves the balance among canned salmon prices, among fishermen's prices during the various seasons, and between canners and fishermen's prices. The prices established by this amendment are generally fair and equitable. These adjustments and the increase in the general level of canned salmon prices will encourage production of this vitally needed commodity and are necessary under Title III of E. O. 9599 to correct maladjustments or inequities which would interfere with the effective transition to a peacetime economy.

1. The table of prices in § 1364.562 is amended to read as follows:

Variety and style of container	Price per case
Alaska King, 1-lb. talls.....	\$15.40
Alaska Chinook:	
1-lb. flats.....	15.38
1/2-lb. flats.....	11.00
Alaska Red:	
1-lb. talls.....	16.50
1-lb. flats.....	17.05
1/2-lb. flats.....	11.00
Coho:	
1-lb. talls.....	12.76
1-lb. flats.....	13.53
1/2-lb. flats.....	8.80
1/4-lb. flats.....	5.72
Pink:	
1-lb. talls.....	5.80
1-lb. flats.....	5.80
1/2-lb. flats.....	6.16
1/4-lb. flats.....	4.28
Chum:	
1-lb. talls.....	8.38
1/2-lb. flats.....	5.94
Copper River Sockeye:	
1-lb. talls.....	16.50
1-lb. flats.....	17.60
1/2-lb. flats.....	12.10
Puget Sound Sockeye:	
1-lb. talls.....	19.80
1-lb. flats.....	20.90
1/2-lb. flats.....	12.54
1/4-lb. flats.....	7.04
COLUMBIA RIVER	
Chinook, Fancy:	
1-lb. talls.....	20.90
1-lb. flats.....	22.66
1-lb. ovals, C. R.....	26.40
1/2-lb. flats, C. R.....	14.30
1/2-lb. ovals, C. R.....	17.60
1/4-lb. flats, C. R.....	7.26
Chinook, Choice:	
1-lb. talls.....	17.60
1-lb. flats.....	19.38
1/2-lb. flats, C. R.....	11.00
1/4-lb. flats, C. R.....	5.72
Chinook, Standard:	
1-lb. talls.....	14.30
1-lb. flats.....	15.40
1/2-lb. flats, C. R.....	8.80
1/4-lb. flats, C. R.....	5.28
Chinook, unclassified:	
1-lb. talls.....	11.00
1-lb. flats.....	12.10
1/2-lb. flats, C. R.....	7.04
Silverside:	
1-lb. talls.....	12.98
1-lb. flats.....	15.40
1/2-lb. flats, C. R.....	8.80
1/4-lb. flats, C. R.....	5.72
Steelheads:	
1-lb. talls.....	17.60
1-lb. flats.....	19.38
1/2-lb. flats, C. R.....	11.00
1/2-lb. ovals, C. R.....	13.20
1/4-lb. flats, C. R.....	5.72
Blurbacks:	
1/2-lb. flats, C. R.....	14.74
1/4-lb. flats, C. R.....	7.48
Chums:	
1-lb. talls.....	8.36
1-lb. flats.....	9.90
1/2-lb. flats, C. R.....	5.50

2. Section 1364.562 (c) is amended to read as follows:

(c) If any amendment to this regulation changes a canner's maximum price for any item of canned salmon, with the first delivery of that item after the effective date of the provision changing the maximum price, the canner shall:

(1) Supply each wholesaler and retailer who purchases the item from him with the following written notice:

NOTICE TO WHOLESALE AND RETAILERS

Our OPA ceiling price for (describe item by kind, variety, grade, brand, style of pack and container, type and size) has been changed under the provisions of Maximum Price Regulation No. 265. We are authorized to inform you that if you are a wholesaler or retailer pricing this item under Maximum Price Regulation No. 421, 422 or 423, and if we are your customary type of supplier, you must refigure your ceiling price for the item in accordance with the applicable pricing provisions of those regulations (see Section 6 in each case). You must refigure your ceiling price on the first delivery of this item to you on and after (insert effective date of amendment).

For a period of 90 days after the effective date of the provision changing the maximum price and with the first delivery after the 90-day period to each person who has not made a purchase within that time, the canner shall include in each box, carton or case containing the item the written notice set forth above.

(2) Supply each purchaser of the item who is a distributor other than a wholesaler and retailer with written notice of the establishment of the new maximum price. The notice, which shall be attached to, or stated on, the invoice covering the first delivery to such purchaser after the effective date of the provision changing the maximum price shall read as follows:

NOTICE TO DISTRIBUTORS OTHER THAN WHOLESALE AND RETAILERS

Our OPA ceiling price for (describe item by kind, variety, grade, brand, style of pack and container type and size) has been changed from \$..... to \$..... under the provisions of Maximum Regulation No. 265. You are required to notify all wholesalers and retailers, for whom you are the customary type of supplier, purchasing the item from you after (insert effective date of the amendment) of any change in your maximum price. This notice must be made in the manner prescribed in subparagraph (1) of this § 1364.562 (c).

This amendment shall become effective June 28, 1946.

NORWEGIAN KIPPERED SNACKS: Maximum prices have been established for importers' sales of all brands of Norwegian kippered snacks in natural pack, the Office of Price Administration announced when issuing Order 364 to Order 38 under Revised Maximum Import Price Regulation--effective July 26, 1946.

This canned fish product--not imported during the war--is again available to United States buyers, and importers have requested authorization of individual ceiling prices, OPA said.

The new prices, applicable to all importers, will relieve both OPA and importers from the burden of handling individual applications for ceiling prices, the agency added.

Retail ceiling prices for single containers will be computed under other regulations and will range from 13 cents to 23 and 26 cents, depending upon the size of the container and the location and classification of the retail store.

The importer ceilings (subject to adjustment for duty), ex-dock or warehouse continental United States point or port of entry, duty estimated, are:

Sales by importers to--	Norwegian kippered snacks (natural)	
	Alumi- num con- tainers	Tin con- tainers
<i>Per case of 100 (3½ ounce)</i>		
Wholesalers and chain stores	\$9.97	\$9.66
Independent retailers	10.50	10.17
Industrial and institutional users	10.94	10.60
<i>Per case 100 (8-7½ ounce (double snacks))</i>		
Wholesalers and chain stores	16.81
Independent retailers	17.71
Industrial and institutional users	18.45
<i>Per case of 100 (8 ounce tins)</i>		
Wholesalers and chain stores	18.40
Independent retailers	19.37
Industrial and institutional users	20.10

PRICE CONTROL EXTENDED: The Price Control Act of 1942, which expired on July 1, 1946, was revised and reinstated on July 25. All ceilings go back to where they were on June 30. Except where the new law specifically makes other provisions, these restored ceilings will serve as the basis for any adjustments made necessary as a result of the new act or because of any adjustment in process on June 30.

All industries and businesses, buyers, and sellers covered by OPA price schedules, regulations, or orders on June 30 are now automatically subject to those same regulations as if the new act had become law on June 30.

Fishery items reported by OPA to be again under price control are:

Fresh and Frozen Fish: only halibut, salmon, tuna, sardines, and sea herring.

Canned Fish: only Maine sardines, California sardines, salmon, mackerel, tuna, and fish flakes.

Items under MPR-550, such as smoked salmon, boneless herring (smoked), and smoked sablefish.

Items which have not been specifically eliminated from GMFR, such as canned whiting.

Salt domestic and imported cod, haddock, hake, etc.

OPA has announced that "Deliveries made after resumption of price control at prices in excess of seller's ceiling price at time of delivery constitute violations."

SALMON FOR CANNING: Amdt. 19 to MPR-579, effective June 28, increased the fishermen's prices for sockeye, steelhead, and chinook salmon, other than troll caught, by two cents per pound when this fish is delivered to canners for canning purposes from May 1 through August 31. These increases were made retroactive to May 1, 1946.

This action is explained in the statement of considerations to Amdt. 4 to MPR-265.



The Great Lakes and their connecting waters form the largest single fresh-water area in the world. They have a surface area of about 60.9 million acres, a total shore-line of more than 8,300 miles, and a combined maximum length of more than 1,600 miles. All of the Great Lakes except Erie have depths of more than 700 feet.

The Great Lakes provide a great diversity of habitat and different areas vary widely as to kinds and abundance of their fish populations. In general, the shallower waters contain the largest variety of species and yield the largest catches. Thus Lake Erie, the shallowest of the lakes, is the most productive. In the deeper lakes the inshore waters and the bays yield the bulk of the total catch. The deepest places of the Great Lakes are unproductive; only in certain regions of Lake Superior are nets set farther down than 100 fathoms.

--Senate Document No. 51

RECENT FISHERY PUBLICATIONS

Listed below are informational publications which recently have been processed by the Division of Commercial Fisheries. FL publications are available, free of charge, from the Fish and Wildlife Service, Merchandise Mart, Chicago 54, Ill. Other listed publications may be obtained, also free of charge, from the Division of Commercial Fisheries, Fish and Wildlife Service, Washington 25, D. C.

Number	Title
CFS-264	- Landings at Certain New England Ports, 1945
CFS-270	- Fish Meal and Oil, April 1946
CFS-271	- Landings at Certain New England Ports, March 1946
CFS-272	- Frozen Fish, June 1946
CFS-278	- Fish Meal and Oil, May 1946
SL-103 (Revised)	- Firms Canning Tuna and Tunalike Fishes, 1945

Reprints (Features) from Commercial Fisheries Review, June 1946.

- Sep. No. 138 - Gloucester--Three Centuries a Fishing Port
- Sep. No. 139 - Grayfish Liver Color Related to Fin-spine Length
- Sep. No. 140 - Conversion of Salmon Cannery to Clam Packing

Designations for fishery publications are interpreted as follows:

CFS - Current fishery statistics of the United States and Alaska.

SL - Statistical lists, consisting of lists of dealers of fishery products and manufacturers of byproducts.

FL - Fishery leaflets.

MDL - Market development lists of frozen food locker plants and locker associations.

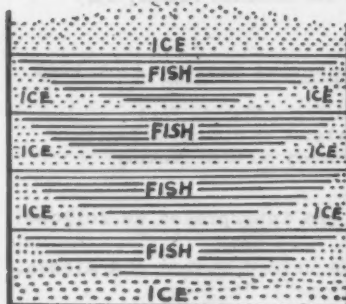


Compositors: Jean Zalevsky
Norma C. Dressler

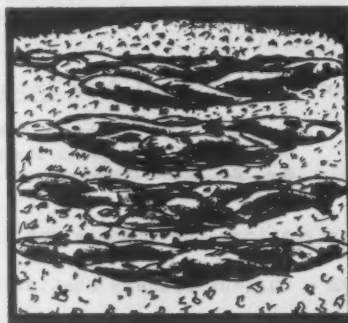
ICING OF FISH AT SEA

The correct icing of fish at sea is of great importance to the fisherman. From 50 to 60 percent of a trip's profit may be lost if the quality of the catch is reduced through inadequate or incorrect icing. For the realization of maximum profits, therefore, it is essential that attention be given not only to the optimum quantities of ice to be used but also to the most effective icing procedures.

In general, the method of icing now followed by New England trawlers is similar to that which has been found to be the most effective in most other regions of trawler fishing. Fishery Leaflet 189, compiled by the Fish and Wildlife Service, describes this method with illustrations.



A



B

For drainage purposes, it is highly desirable that the base layer of ice be at least two inches in depth when the trip returns to port.

With the ending of the war, the fishing industry must look forward to increasing sales competition, both from within the industry and outside. Emphasis on market quality of fish will steadily increase--particularly as efforts are made to develop inland markets. In view of these prospects, the importance of correct icing at sea cannot be over-emphasized. It is a factor for every fisherman's serious consideration.

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